The CONSTRUCTOR

OFFICIAL PUBLICATION OF THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA

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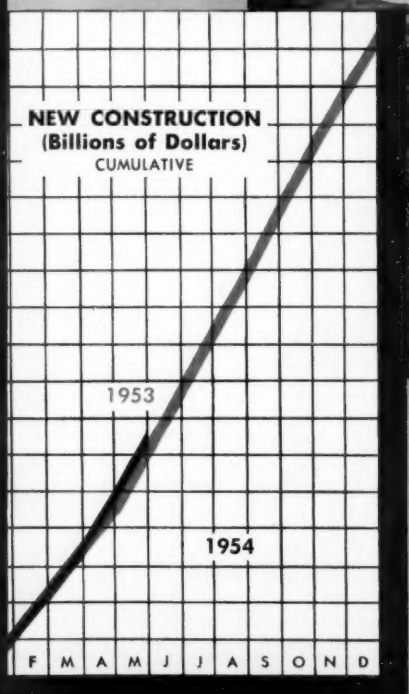
- BUILDINGS
- HIGHWAYS
- AIRPORTS
- RAILROADS

PUBLIC WORKS

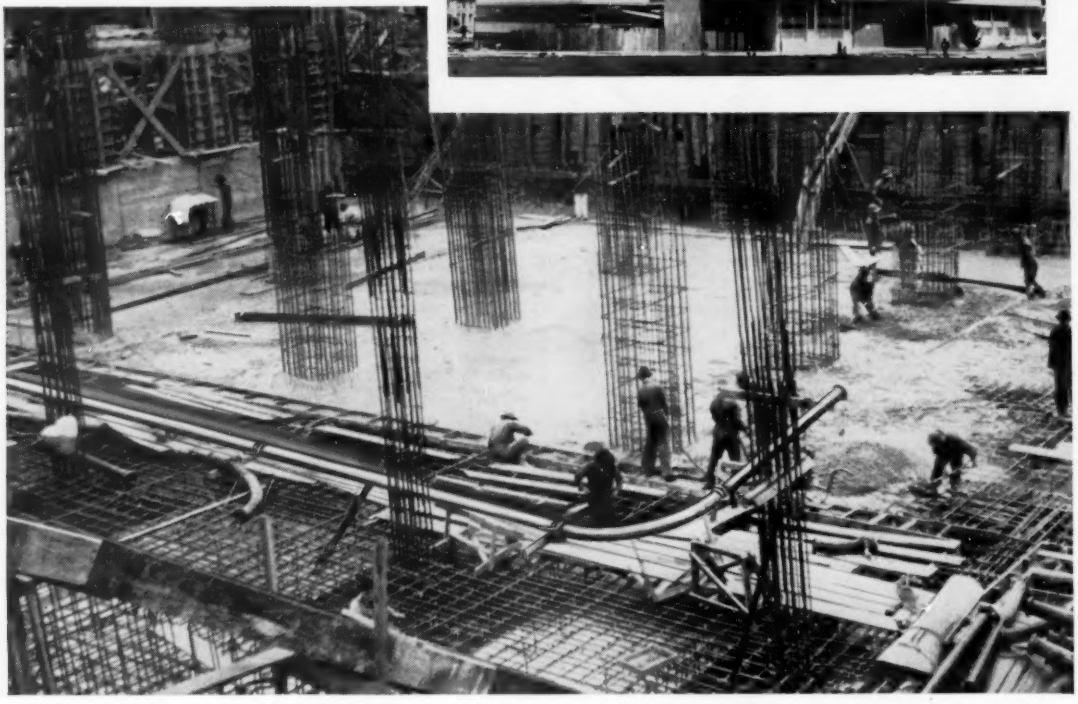


Pan American Airways Builds Bogota Hotel...

Recently opened Hotel Tequendaura in Colombia's capital city of Bogota is the newest of Pan Am's chain of Latin American hotels. It's managed by their hotel-operating subsidiary, International Hotel Corp.

Designed by Chicago Architect...

Holabird, Root and Burgee of Chicago, internationally known architects, designed this impressive 17-story hotel.



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says Bogota Contractor, Cuellar, Gomez and Cia., Ltd.

Rex Pumpcrete was used to place all the concrete for the structure...14,400 cubic yards for foundations, supporting beams, columns and floors for this seventeen-story, $7,500,000 hotel, one of the most modern in Latin America. Two Model 160 Pumpcretes were used, sharing the pumping job for the first 10 floors...a height of 110 feet.

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114-PIECE EARTH-MOVING FLEET KEEPS PALISADE DAM RISING 28,000 CUBIC YARDS A DAY!

The 13,800,000-cubic-yard Palisade Dam on Snake River, Idaho, will be one of the world's largest earth-fill barriers—260 feet high, 2,200 feet long by 40 feet wide at the crest, and 2,250 feet wide at the base. Wrenching the treacherous Snake River from its bed to a man-made channel (with 60 miles of momentum behind the river) was just one of the problems this job dishes out regularly!

GIANT HARD ROCK LUGS, as all types of tires used on this job, get expert, periodic inspections that save rubber and down time.

Wherever there's a job-for-the-book, GOODYEAR IS THERE. Yes — *all* there — with the right type tire for each job, with the *toughest* tires ever, because now they're built with new, Triple-Tempered (3-T) Cord!

3-T Cord—both Nylon and Rayon—is made by Goodyear's exclusive Triple-Tempering process. It *stays* at its most bruise-resistant, heat-resistant point, controls tire growth, cuts tread and body failures to new lows. Get *all* the facts before you buy or specify any other tire. Goodyear, Truck Tire Dept., Akron 16, Ohio.

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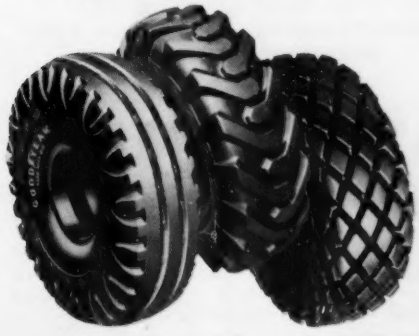
for greatest all-round stamina



FOR EACH JOB, THERE'S A COST-CUTTING GOODYEAR TIRE!

GOODYEAR

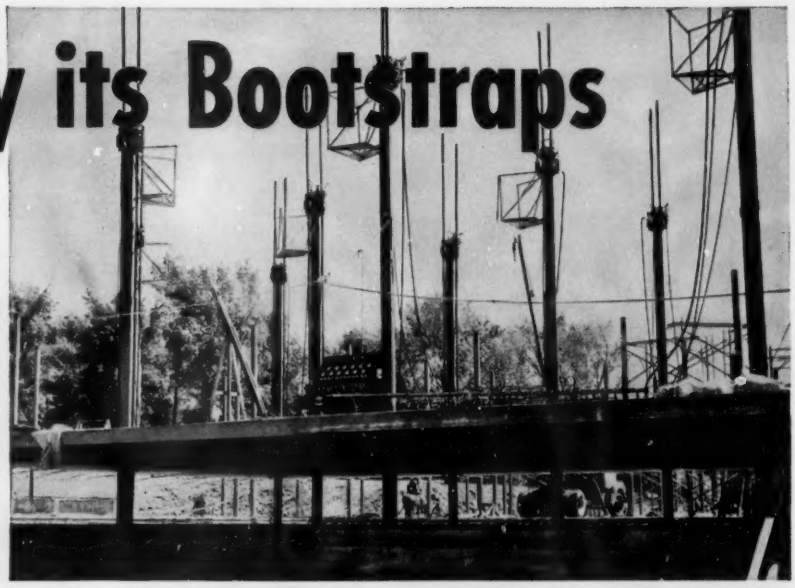
MORE TONS ARE HAULED ON GOODYEAR TRUCK TIRES THAN ON ANY OTHER KIND

HARD ROCK RIB SURE-GRIP ALL-WEATHER

Sure-Grip, All-Weather—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

Raised by its Bootstraps

New Hallmark Greeting Card Factory Building Constructed by Lift-Slab Method

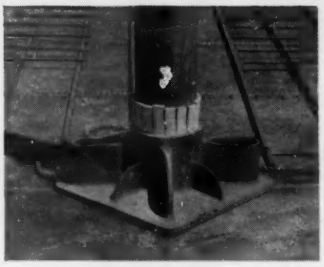


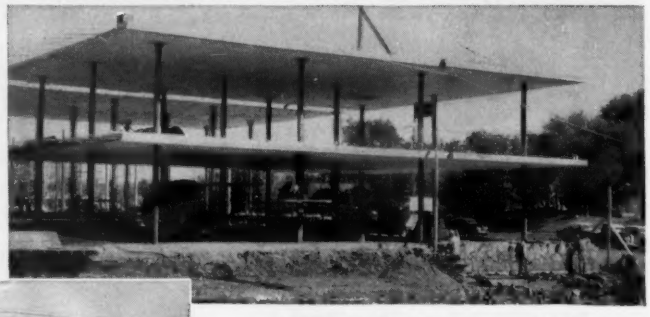
● More than two million greeting cards a day leave the Hallmark production lines—cards distinguished in design and execution, characteristics which have their counterpart in Hallmark's new branch factory building, near Kansas City.

Utilizing the Youtz-Slick Lift-Slab Method, concrete slabs were poured on the main floor, one on top of the other, then lifted into place by hydraulic hoisting equipment, with jacks operated automatically from a control panel. After slabs reached design elevation, steel blocks were welded to columns to support the slabs. And it is quality construction throughout—concreted with Lone Star, hallmark of quality.

Next thing to lifting a building by its bootstraps, the Lift-Slab method saves substantially on forms, eliminates shoring, minimizes material-hoisting costs. For further economy, concrete the last slab with 'Incor'* 24-Hour Cement—start lifting 2 or 3 days sooner.

*Reg. U.S. Pat. Off.





HALLMARK CARDS—Factory Building
Westwood Branch, Johnson County, Kansas

Architects-Engineers:
WELTON BECKET AND ASSOCIATES, Los Angeles, Cal.

General Contractor:
LONG CONSTRUCTION COMPANY, Kansas City, Mo.

Ready-mix Lone Star Concrete:
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STEWART SAND & MATERIAL COMPANY,
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The CONSTRUCTOR

BUILDINGS • HIGHWAYS • AIRPORTS • RAILROADS • PUBLIC WORKS

CONTENTS

Cover

One of the first of 19 pre-assembled sections of the 922-ft.-long spillway bridge at Chief Joseph Dam, on the Columbia River, is being lifted into place on a 25-ton cableway. Work was speeded by pre-assembly of the huge sections. Completion of the main dam is expected by August 1955 with the first three 64,000 kw generators to be in operation the following month. Story and more pictures on pages 57-58.

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Construction work on super highway near Muskogee, Okla.

Construction buyers will get more for their money this year than in any period since before World War II. Waiting for a better year in which to build is a "long-odds gamble," says *Construction Markets*, issued last month by the Construction and Civic Development Department Committee of the Chamber of Commerce. See news story, page 23; editorial, page 21. Departments of Labor and Commerce report that 1954 construction volume is up 2% over last year, exceeding $36 billion annual rate (page 7).

National water policy to coordinate federal participation in resource development received major impetus May 26 with President's appointment of a Cabinet Committee on Water Resources Policy to undertake "an extensive review of all aspects of water resources policy" and report to the White House by Dec. 1, 1954. Members of committee are Secretaries of Interior, Defense, and Agriculture, assisted by other agency heads, who also will consider recommendations of the Hoover Commission on Organization of the Executive Branch, which has been studying same problem.

Interior Secretary McKay, named as chairman of the Cabinet Committee, told Rivers and Harbors Congress, where President announced the move, that policy should recognize "rights and responsibilities of the states and the other local interests" and "replace the patchwork of existing laws" governing resource development.

President also approved establishment, as proposed by Interior Department, of Inter-Agency Committee on Water Resources, composed of Departments of Interior, Agriculture, Commerce, Health, Education and Welfare, Army, and Federal Power Commission, with Labor Department as associate member, as "a facility for improving the coordination of existing policies, programs and activities . . . concerned with water and land resources investigation, planning construction, operation and maintenance."

Rivers and Harbors Congress, after hearing many Administration and Congressional leaders, endorsed 39 projects which would cost nearly $1 billion, and adopted resolution supporting Army civil functions in planning river and harbor improvements. Rep. Overton Brooks (D., La.) was chosen president, succeeding Sen. John L. McClellan (D., Ark.), who became board chairman.

Upper Colorado River project authorization bill, involving $1 billion, cleared House Interior Committee by only one vote margin. Committee will seek rule for measure, which still includes Echo Park Dam.

Middle Snake River development report, proposing construction of four dams and reservoirs by Reclamation Bureau and Army Corps of Engineers in Idaho and Oregon, costing more than $600 million, has been sent to Columbia River Basin states and federal agencies for comment, prior to formal submission to Congress.

Right of judicial review of disputes arising under federal contracts now is assured by the signature into law of S. 24 (Public Law 356, 83rd Congress) by President Eisenhower on May 11, marking the conclusion of a long effort launched by The Associated General Contractors of America after the celebrated Wunderlich decision of the Supreme Court in November 1951. Purpose of the legislation and its application are explained in report of House Judiciary Committee (page 36).

Highway act (Public Law 350), making available almost $1 billion annually in federal aid for the two fiscal years beginning July 1, 1955, was signed May 6 at the White House in a ceremony accompanied by statements praising the measure by the President and the Secretary of Commerce (picture and story, page 46).

St. Lawrence Seaway project will be launched by United States and Canada in near future after Congressional authorization which was sought for several decades. The bill was passed by the House May 6 and signed into Public Law 358 on May 13, setting up a corporation to represent the U. S., authorized to issue $105 million in bonds to cover its share of cost. Corps of Engineers is expected to administer work (page 59).

The Constructor, for second successive year, received the National Safety Council's Public Interest Award "for exceptional service to safety." It was the only construction magazine listed (page 65).

Safety is not primarily a matter for legislation or regulation, but a question of the attitude of employer and employee, Under Secretary of Labor Arthur Larson told the President's Conference on Occupational Safety in Washington (page 65).

Reactivation of airport federal-aid program is under consideration by Congress in two bills—one for appropriations and the other proposing amendments to its administration. Commerce Department has requested $33 million in aid to local airports for next fiscal year (page 38).

Taft-Hartley Act amendments, which have been considered by Congressional committees, appear stymied for this session by recommitment of Senate bill to the Senate Labor and Public Welfare Committee last month.

Welfare and pension funds covered by collective bargaining agreements will be investigated starting this month by labor subcommittees of both Houses to determine whether opportunity exists for diversion or other abuse of the funds, requiring corrective legislation (page 32).

Military construction authorization bill covering $875 million of projects was passed by the House May 25 and sent to the Senate after the House Armed Services Committee in its report praised handling of the program by the Director of Construction, Defense Department (page 32).

Spanish base construction by the U. S. probably will get under way this fall, State Department officials report. The U. S. on May 27 also allotted another $45.7 million for defense support of Spain, bringing to $85 million the amounts designated for this program. Its uses will include railroad equipment and machinery for highway construction and electric power generation.

Housing bill, incorporating in modified form cost of Administration's major recommendations, was reported to Senate May 28 by Banking and Currency Committee, with a floor fight in the offing over public housing in view of the Supreme Court's anti-segregation ruling. At same time, Chairman Capehart announced the committee voted to speed its investigation into housing scandals.

There's no secret

why so many contractors and engineers specify pipe by

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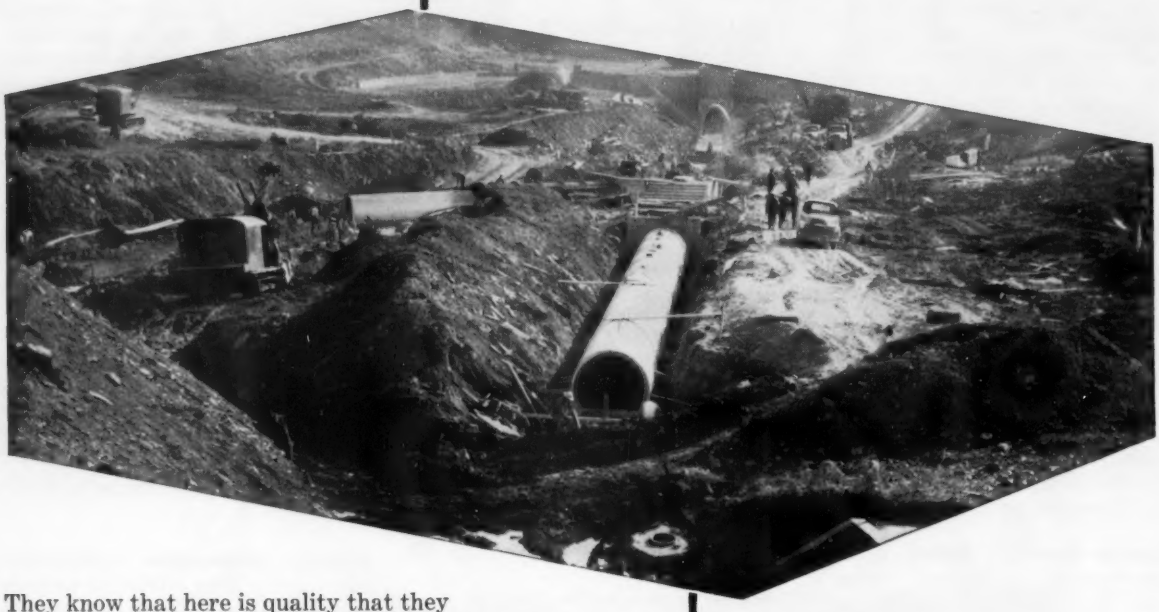

They know that here is quality that they cannot beat — uniformity that is dependable always — pricing that is always right — and completeness of line that assures them the kind and size of pipe needed.

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Recession Talk Subsides with Seasonal Upturn; Construction High

» TALK of a worsening business recession definitely subsided last month, and the more alarmist speculation over whether the economy was headed for a more serious decline—possibly a real depression—dwindled even more noticeably. There were occasional echoes of earlier forebodings, but indications were that the public mind was less disturbed over the business outlook than it had been.

What significance this may have is a question. Does it mean that a seasonal upturn has served to reassure the country that business is going to regain its lost ground? Or have people in general concluded that the talk of a serious business decline was not well founded? Or does it mean that people have simply become somewhat reconciled to the business downturn and are disposed to wait and see what happens next without getting upset about it in the meantime?

Whatever the explanation of the letup in recession talk, the fact itself may reasonably be taken to mean that public confidence in the future of business has not been badly shaken. That would seem to be to the good, if only because public psychology can have some effect on business conditions.

The State of the Economy

The economic facts themselves are evident enough, and there has been no pronounced change in them in recent months. They are:

- There has been a downturn in business, as compared with 1953, and it remains with us, though the levels of economic activity are still high in comparison with years before 1953.
- The downturn has been ameliorated in the last two months by a seasonal increase in business in many lines—but in the main the improvement reflects seasonal influences, and not a basic change in the rate of economic activity.
- There has been a pickup in employment in the last two months, after a considerable rise in unemployment earlier—but again this improvement was seasonal in nature.
- The one big exception to the general lessening of economic activity remains the volume of construction, which has continued to set new records month after month this year, and has unquestionably been the chief bulwark against a further decline in general business conditions.

Construction Still Rising

The volume of construction continues high, with each month this year showing a gain over the corresponding month of 1953, the biggest construction year in history. The early forecasts were that new construction in 1954 would run about 2 per cent below the record volume of 1953, which was $34.8 billion.

Instead of declining 2 per cent, construction activity so far this year has shown an increase of 2 per cent over last year.

The cumulative total of new construction for the first five months of the year, according to Department of Commerce figures, is $13,246,000,000, compared with $13,028,000,000 for the same period of last year. The gain is chiefly accounted for by a 10 per cent increase in private nonresidential construction, led by commercial construction. Highway construction is up 18 per cent over the first five months of last year. Private educational construction is 26 per cent higher and public educational building is 18 per cent higher than in the same months of 1953. Private residential construction shows a 1 per cent increase.

Seasonally adjusted, the annual rates of new construction for the first five months of the year were:

January	$35,472,000,000
February ...	36,600,000,000
March	36,012,000,000
April	36,216,000,000
May	36,624,000,000

This adds up to a seasonally adjusted annual volume of new construction for the five-month period of something more than $36 billion, well above the total of $34.8 billion for 1953.

First-Quarter G.N.P.

During the first quarter of 1954, the gross national product was at a seasonally adjusted annual rate of $358 billion, the Commerce Department's Office of Business Economics announced May 14. This rate was about $6 billion, or 1.5 per cent, less than the figure for the final quarter of 1953, and $9 billion less than the all-time high G.N.P. for all of last year. It was $10 billion more than the market value of the nation's output of goods and services in 1952, however.

Personal income from all sources in the first quarter was at a seasonally adjusted annual rate of $283 billion, $3 billion less than in the last quarter of 1953. Reduced federal income tax rates which went into effect the first of the year, however, left disposable personal income at an annual rate of $250 billion, virtually unchanged from the preceding quarter and higher than the annual rate for the first quarter of 1953.

Industrial Production Improving

The Federal Reserve Board in its May *Bulletin*, released May 28, reported an improvement in industrial production, led by moderate increases in automobiles and major household durable goods, such as refrigerators and television sets. Production of nondurable goods, such as clothing, has held generally steady. The output of building materials has been maintained by continuing high construction levels. Tending to offset these favorable trends were further declines in the production of iron, steel, ordnance and semifabricated metal products. All in all, says the *Federal Reserve Bulletin*, the decline in industrial activity which began last summer has slackened.

Factory Deliveries Rise

Manufacturers' deliveries in April increased by 1 per cent over the rate for March, on a seasonally adjusted basis, the Office of Business Economics, Department of Commerce, announced May 28. Most major manufacturing industries showed minor sales increases over the previous month, with the largest gains in motor vehicles and food. Total manufacturers' sales in April, at $24.5 billion, however, were $1.8 billion less than in April 1953.

The decline in the book value of inventories continued during April, falling $500 million, after seasonal adjustment. At the end of the month inventories of all manufacturers stood at $45.5 billion, which was $100 million more than at the same time last year. The liquidation during April took place in stocks of durable goods, inventories of nondurable goods remaining relatively unchanged.

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Here is another excellent example where Stainless Steel Metal Walls have been employed to good advantage in dressing up a building which, because of its functional characteristics, would otherwise have been rather prosaic in appearance. The architects have achieved in this structure a result in modern design which has attracted much interest and many enthusiastic comments. The advantages of Metal Walls, however, are not confined to appearance and design effects obtainable . . . important building economies are realized through lower material cost, lower labor cost, and the cumulative savings resulting from reduced construction time . . . buildings can be quickly enclosed with Insulated Metal Walls—even under extreme low temperature conditions which would preclude masonry construction. Other important factors to be considered are the light weight of these modern curtain walls and the maintenance-free permanence of Stainless Steel or Aluminum exterior surfaces. Mahon Insulated Metal Walls are available in three exterior patterns . . . the Mahon "Field Constructed" Fluted or Ribbed Wall can be erected up to sixty feet in height without a horizontal joint—a feature of Mahon Walls which is particularly desirable in auditoriums, powerhouses and other types of buildings where high expanses of unbroken wall surface are common. See Sweet's Files for complete information or write for Catalog No. B-54-B.

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MAHON

A Series of Graphs Outlining the Construction Trend

Compiled by The Associated General Contractors of America

TREND OF CONSTRUCTION COSTS

The average of construction costs in the principal construction centers of the United States for May stands at Index Number 422 according to the A.G.C. Index. The cost figure for May 1953 was 402. The 1913 average equals 100.

WAGE AND MATERIAL PRICE TRENDS

The average of wages in the principal construction centers of the United States stands at 593 for May. One year ago the average stood at 557. The average prices paid by contractors for basic construction materials for May stand at Index Number 309. The average a year ago stood at 299. The 1913 average, again, equals 100.

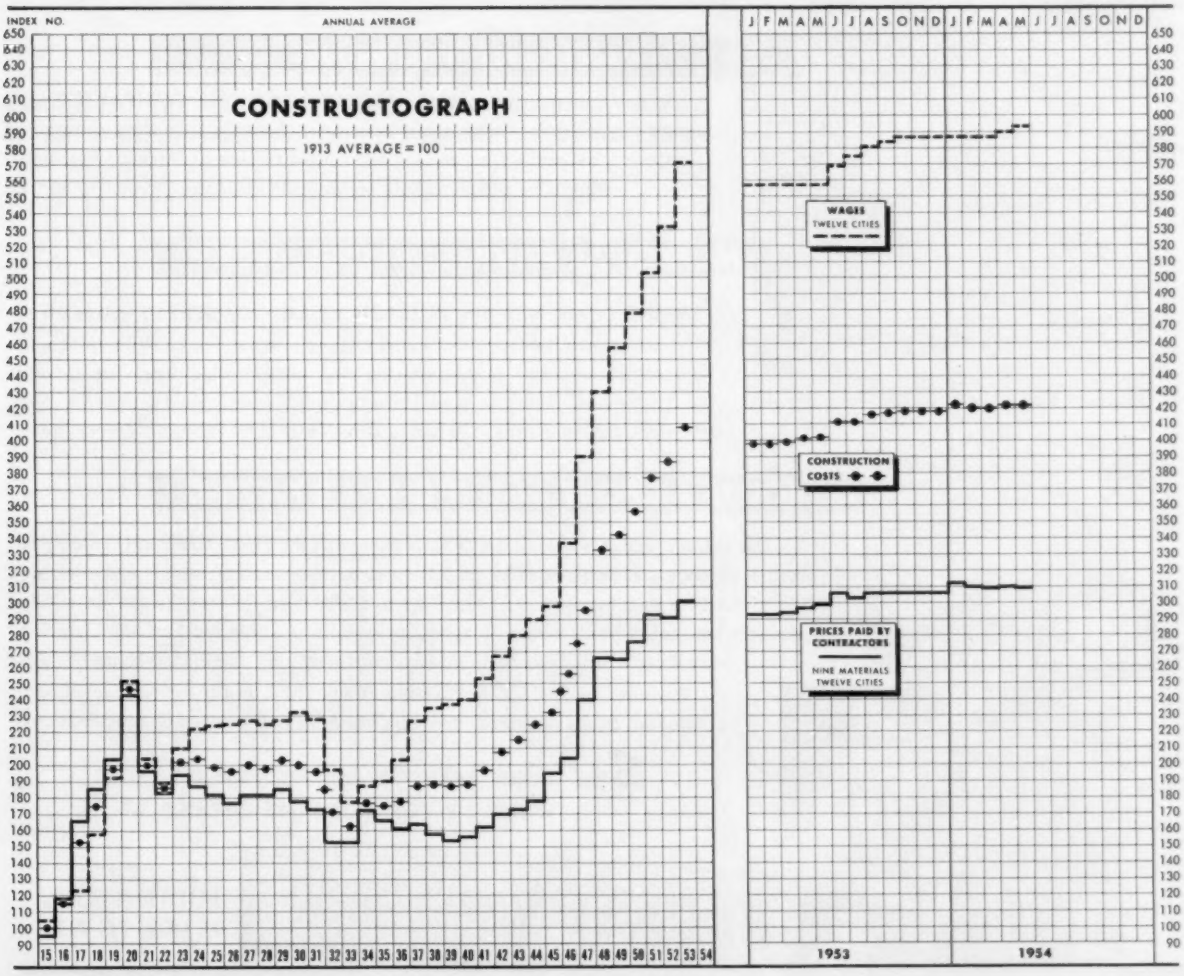
CONTRACT AWARDS IN 37 STATES

The volume of contracts awarded during April (Index Number 303, based on 1936-38) is an increase of 28 points from March and a decrease of 27 points from April 1953. (F. W. Dodge Corp.)

REVENUE FREIGHT LOADINGS

Revenue freight loaded during the first 21 weeks of 1954 totaled 12,941,485 cars. For the same period in 1953, loadings amounted to 14,936,208 cars. This represents a decrease of 13%.

● Wage, Material Price and Construction Cost Trends



4 WAYS TO BETTER PAVING and BIGGER PROFITS!

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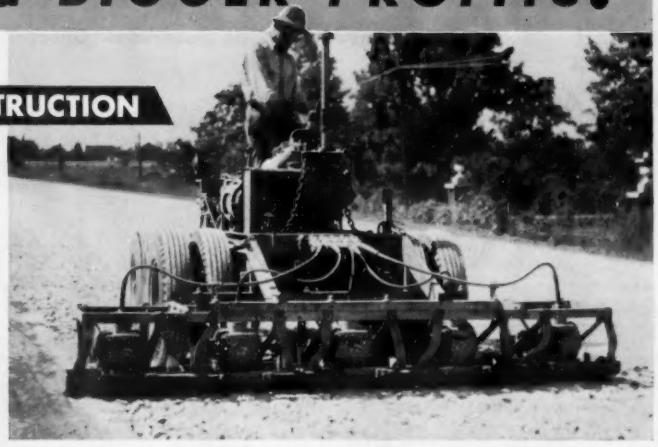
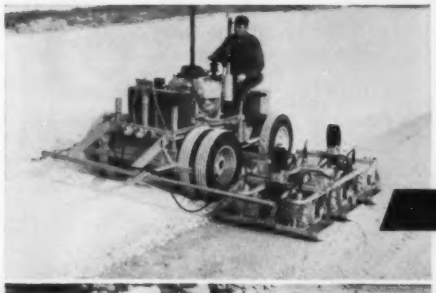


The **JACKSON VIBRATORY MULTIPLE COMPACTOR**, with a total compaction width of 13′ 3″, working speeds of 0′ to 60′ per minute and reverse travel speed of 5½ M.P.H., in one pass will compact 12″ of rock to support smooth rollers. In 4 passes compaction to final density may be obtained. With 2 passes all voids from top to bottom can be filled with fines. And in gravel sub-bases 7″ thick, one pass suffices to produce densities exceeding

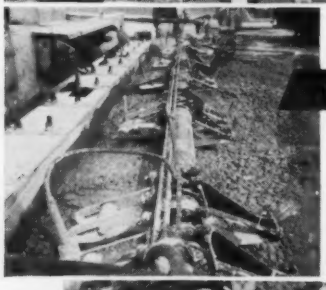


100% Standard Proctor. It's also extremely advantageous in compacting granular soil fills, such as bridge approaches and large factory floors. For the tight places the individual compacting units may be fitted with operating handles and used as self-propelling manually-guided compactors.

PAVEMENT WIDENING

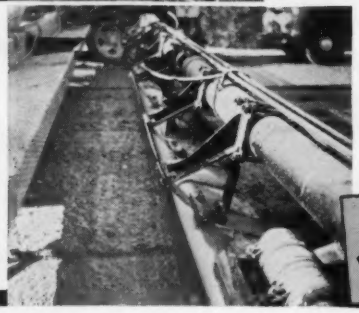
In any granular material the **JACKSON MULTIPLE COMPACTOR** will compact the widening strip in just one pass. For this purpose compacting units are assembled in tandem and towed at side of tractor. Assembly adjusts to accommodate varying dimensions of widening strips.

MUNICIPAL PAVING, BRIDGE DECKS



Walks, Drives, etc.: The **JACKSON VIBRATORY SCREED** strikes off to all crowns, undercuts at curbs and side forms, works right up to and around obstructions and is quickly and easily rolled back for second passes. Suitable to all slabs up to 30′ wide. Most productive and convenient screed made. Operates from JACKSON Portable Power Plant.

CONCRETE AIRPORT AND HIGHWAY PAVING



The current, super-powered **JACKSON *Internal* PAVING TUBE** will thoroughly vibrate all concrete slabs as thick as 24″ and as wide as 25′, quickly plasticizing the very dry, harsh mixes. Attached to a standard finisher, its use materially reduces spreading labor where no spreader is used. Adapted to *Surface* vibratory operation, it will do a perfect job of vibrating any mix in depths up to 12″

Powered by JACKSON Portable Power Plant on parent equipment and controlled by its operator. *The one machine that meets ALL specifications.*

***See* YOUR JACKSON DISTRIBUTOR OR WRITE US FOR COMPLETE DETAILS**

JACKSON VIBRATORS, INC. LUDINGTON, MICHIGAN

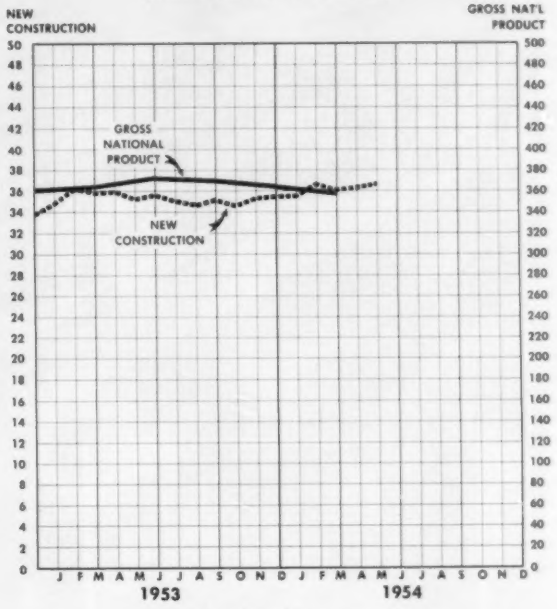
● TOTAL Construction Compared with Gross National Product

(BILLIONS OF DOLLARS)

DATA SUPPLIED BY DEPT. OF COMMERCE

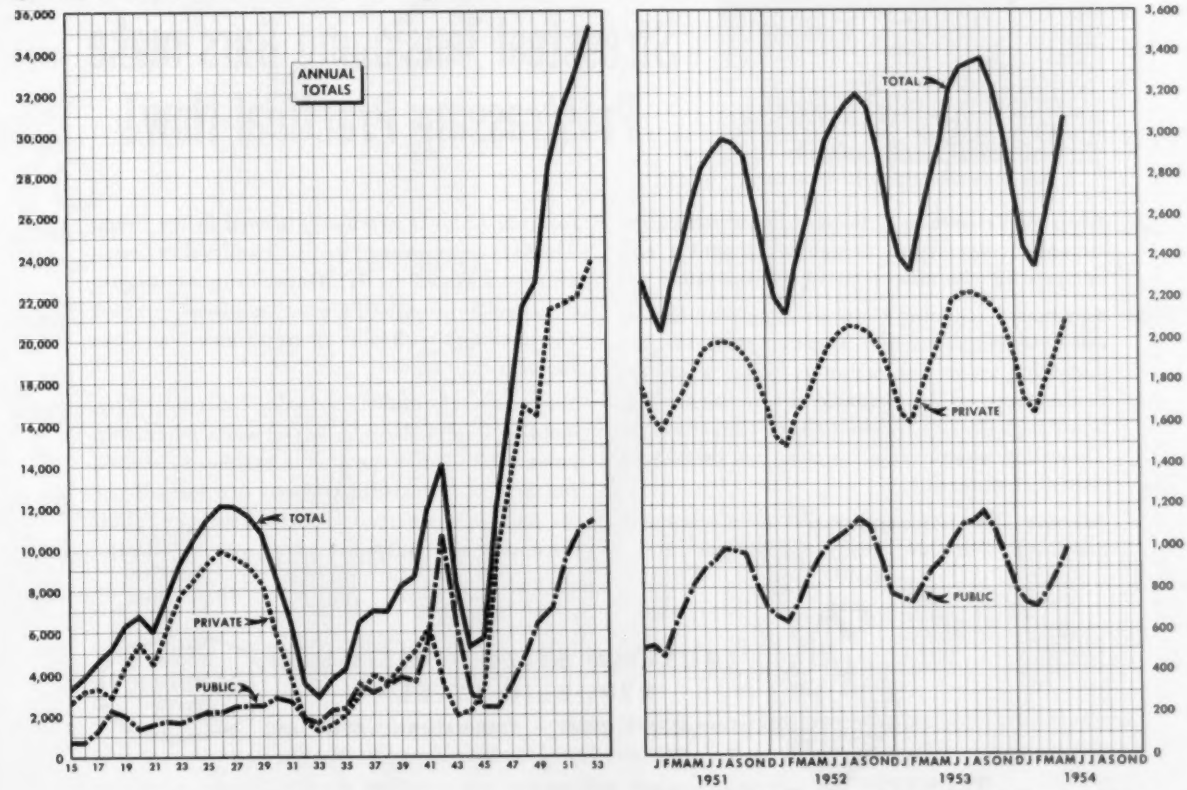
● NEW Construction Compared with Gross National Product *

(BILLIONS OF DOLLARS)



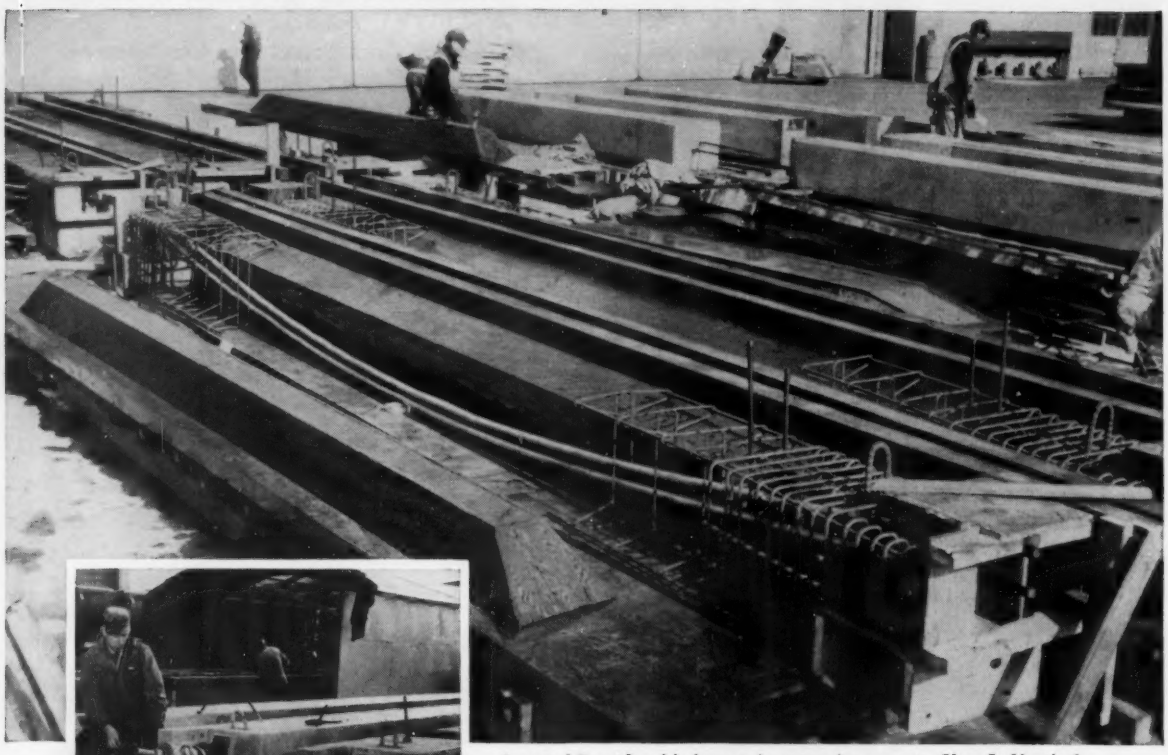
* *Seasonally adjusted at an annual rate*

● New Construction Activity (MILLIONS OF DOLLARS)

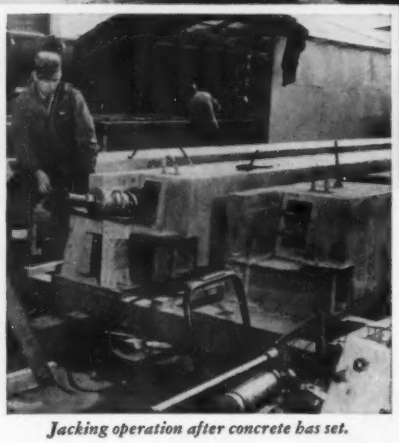


DATA SUPPLIED BY DEPTS. OF COMMERCE AND LABOR

Prestressed concrete construction can increase strength, cut dead weight, save materials, allow longer spans . . .



Stressteel Bars placed in forms prior to pouring concrete. Glenn L. Martin Co. Plant, Baltimore, Md.



Jacking operation after concrete has set.

Stressteel Tensioning Bars make Prestressing Practical Now!

Stressteel Tensioning Units now make prestressed concrete construction completely practical and competitive with other types of construction.

Stressteel Tensioning Units are alloy steel bars of extremely high strength, together with suitable anchoring assemblies. Stressteel bars—½″ to 1⅛″ in diameter—are fully capable of carrying the sustained high stresses necessary to prestress concrete. They allow you to place concrete in a permanent state of compression.

Stressteel Units require no special skills, no special handling. Workers simply place them in the form, or in holes previously formed in the beam. The bars are tensioned with hydraulic jacks (available on a rental basis). Depending on length, Stressteel Tensioning Bars may be placed, stressed and anchored with only 25 to 45 man-hours per ton of bars.

You can apply Stressteel Tensioning Units to bridges, building frames, dams, retaining walls, pavements, poles, piles, roof slabs, beams, bulkhead tiebacks, and to reinforce existing concrete structures. Write for the Truscon Stressteel manual listing applications, design data, specifications and procedures.

TRUSCON MARK OF MERIT PRODUCTS

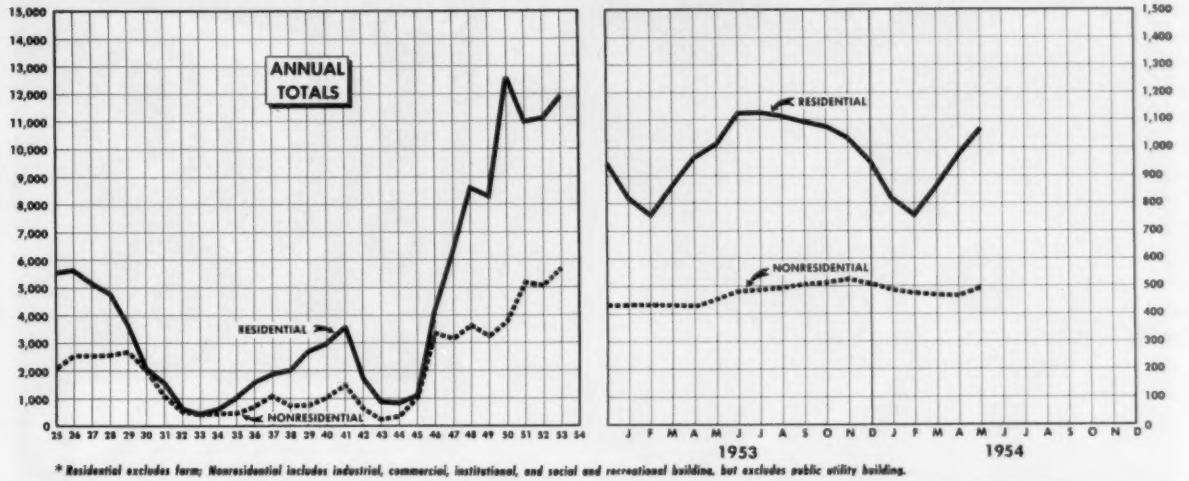
TRUSCON STEEL DIVISION
REPUBLIC STEEL
1100 ALBERT STREET • YOUNGSTOWN 1, OHIO

REPUBLIC STEEL

TRUSCON® —a name you can **build** on

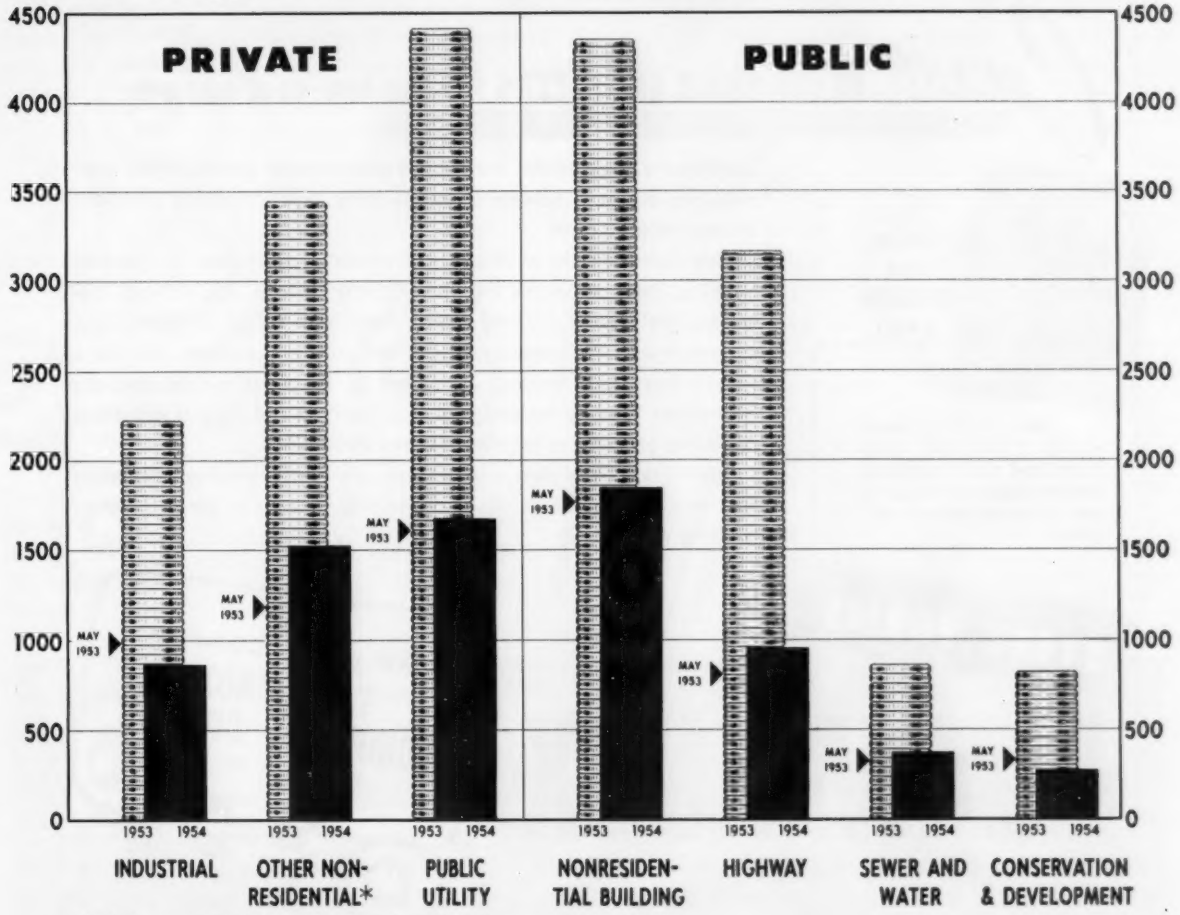
NEW CONSTRUCTION ACTIVITY

● Private Residential and Nonresidential Building * (MILLIONS OF DOLLARS)



* Residential excludes farm; Nonresidential includes industrial, commercial, institutional, and social and recreational building, but excludes public utility building.

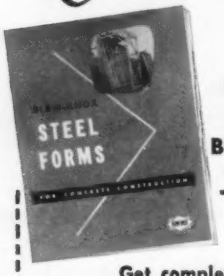
● Selected Types: (CUMULATIVE, MILLIONS OF DOLLARS) 1953, 1954 VOLUME THROUGH MAY



*Includes commercial, institutional, and social and recreational building

Blaw-Knox Steel Forms and Gantry used for building 29 ft., 6 in. high retaining wall on the Pennsylvania-Lincoln Parkway, Pittsburgh, Pa.

Consult BLAW-KNOX ENGINEERS for the low-cost answer



WRITE FOR BULLETIN 2430

Get complete details about Blaw-Knox Steel Forms and the consultation service that is available to any contractor without obligation.

TAKE advantage of the Blaw-Knox consultation service *before* your plans are drawn or blueprints made—solve your concreting problems before you have them.

Blaw-Knox has the skill and experience of more than 40 years of building Steel Forms for big construction projects. An unusual concreting problem to you may already have been solved by Blaw-Knox engineers who are trained to get to the core of a problem and find a simple, less costly method of solving it. They will recommend the Blaw-Knox Steel Forms designed to fit your job and suggest simplified operating procedures to save you time and money.

Before you start to plan your next job, write, wire or phone for information. Call on the Blaw-Knox consultation service in the *preliminary planning* stage.

STEEL FORMS

BLAW-KNOX

BLAW-KNOX COMPANY
BLAW-KNOX EQUIPMENT DIVISION
Pittsburgh 38, Pa.

For Moderate Income Families in Large Cities

(Formerly referred to as the "Cost of Living Index," compiled by the Bureau of Labor Statistics)

Recent reductions in federal excise taxes helped bring about a decline of 0.2% in the government's Consumer Price Index, the Bureau of Labor Statistics reported.

Because of the lower taxes, reductions resulted in house furnishings, household operation, personal care and recreation. There were, however, continued increases in rent, medical care and other personal services, plus a "moderate advance" in food prices.

The index, as of mid-April, stood at 114.6, which was 0.8% above last year and 12.6% over the June 1950 level. It was also 0.7% below the all-time high set last October.

A soft market in most household appliances, aided by the reduced excise tax, has resulted in the lowest house-furnishings' index in over three years.

Food costs rose 0.3% during the month because of price increases in some meats, fresh fruits and vegetables. Rents rose slightly continuing an upward trend which began when federal controls were removed last July.

The general price decline clipped a penny off a nickel-an-hour pay increase due more than one million auto and aircraft workers June 1. Their contracts are tied to the Consumer Price Index.

The Consumer Price Index, formerly calculated on the base 1935-39=100, was converted beginning last year to the new base 1947-49=100 in compliance with recommendations of the Bureau of the Budget.

A portion of this index below indicates the average changes in retail prices of selected goods, rents and services bought by the average family of moderate income from February 15, 1952 to April 15, 1954.

They are presented here for use by employers who may wish to take these cost of living data into consideration when contemplating adjustments of wages based on increased living costs.

Aside from the change of the base years, the revised index includes prices of about 300 items, compared to some 200 for the previous index. The "weight" assigned to items is now based on facts concerning family expenditures of wage earners and clerical workers found in a survey on consumer expenditures conducted by the bureau.

The first five cities in the table below are checked and reported on monthly. The other 15 cities are surveyed and their indexes published quarterly.

	1952			1953			1954		
	FEB.	MAR.	APR.	FEB.	MAR.	APR.	FEB.	MAR.	APR.
Average	112.4	112.4	112.4	113.4	113.6	113.7	115.0	114.8	114.6
New York, N. Y.	110.6	110.2	110.9	111.1	111.2	111.1	112.8	112.4	112.5
Chicago, Ill.	112.7	113.2	113.4	113.9	113.8	114.2	116.7	116.7	116.5
Los Angeles, Calif.	114.1	114.2	114.6	114.9	115.4	115.6	116.6	116.2	115.7
Philadelphia, Pa.	112.4	112.9	113.1	113.7	114.1	113.7	115.2	114.9	115.1
Detroit, Mich.	113.0	113.0	113.6	115.1	115.2	115.2	116.4	116.5	116.7
Atlanta, Ga.	115.1	.....	.....	.....	116.7	.....	.....	117.0	.....
Baltimore, Md.	.....	112.3	.....	.....	114.2	.....	.....	114.8	.....
Boston, Mass.	114.1	111.2	111.1	.....	.....	111.7	.....	.....	112.9
Cincinnati, Ohio	111.1	111.3	111.9	.....	112.6	.....	.....	114.2	.....
Cleveland, Ohio	112.6	.....	.....	112.5	.....	.....	115.2	.....	.....
Houston, Texas	114.8	114.8	115.0	116.1	.....	.....	116.9	.....	.....
Kansas City, Mo.	.....	.....	113.9	.....	.....	114.3	.....	.....	115.5
Minneapolis, Minn.	.....	113.5	.....	.....	.....	115.1	.....	.....	116.3
Pittsburgh, Pa.	112.3	111.9	112.3	.....	.....	112.8	.....	.....	114.5
Portland, Ore.	.....	.....	114.7	.....	.....	115.4	.....	.....	114.8
St. Louis, Mo.	.....	114.0	.....	.....	114.7	.....	.....	116.9	.....
San Francisco, Calif.	.....	113.0	.....	.....	115.5	.....	.....	116.5	.....
Scranton, Pa.	110.8	.....	.....	112.2	.....	.....	113.2	.....	.....
Seattle, Wash.	114.3	.....	.....	114.6	.....	.....	116.2	.....	.....
Washington, D. C.	112.0	.....	.....	113.0	.....	.....	114.1	.....	.....

QUESTION *

How much more material is there in a Three-Inch-Higher Windrow . . . 9% . . . 18% . . . 31% . . . ?

Cross section of an average, 21-inch high windrow . . . the area (width x height ÷ 2) is 614 sq in.

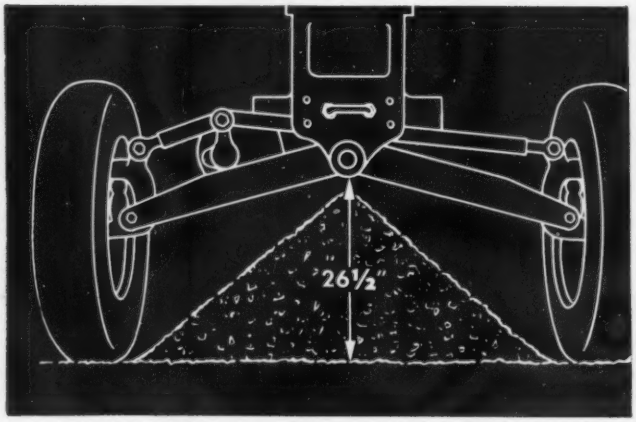
Now increase the height of the windrow by 3 in. The cross-section area now equals 804 sq in.

The difference . . . 190 sq in, over 30 percent more area, which means over 30 *percent more yardage.*

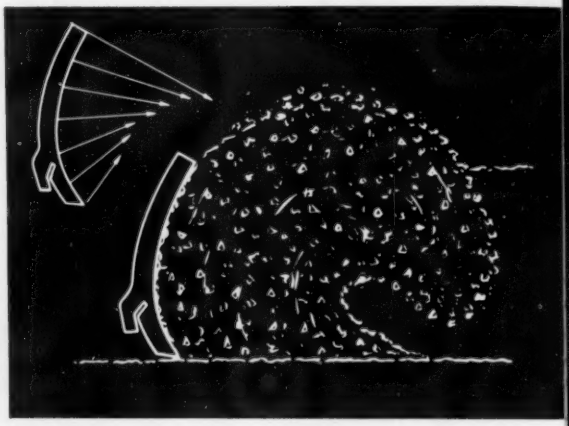
*Only a Combination of Advanced Design Features Lets a Motor Grader Handle Big Loads Fast

To take full advantage of even a *three-inch* difference in windrow height (as explained above) a heavy-duty motor grader needs new design and performance characteristics from front to rear . . . and from the top of the main frame to the bottom of the blade. No single feature can give you the increased work capacity that is so essential on road construction, maintenance and oil-mix jobs.

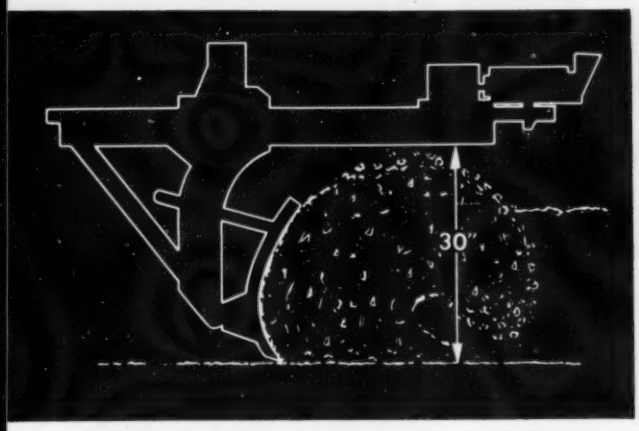
Now let's analyze the Allis-Chalmers 104-brake-horsepower AD-40 to see how it measures up to these stiff requirements.



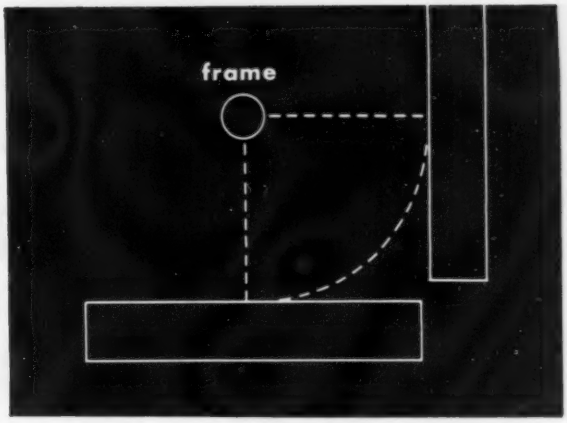
1 **A high-arch front axle** to straddle big windrows . . . take advantage of that 3-inch difference and let big loads pass through to the blade.



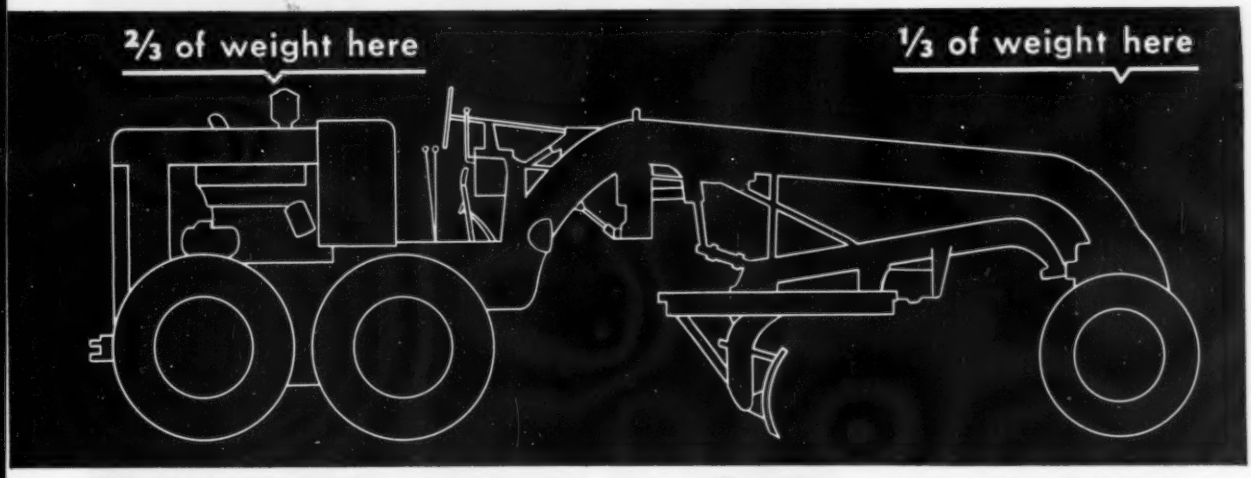
2 **A rolling-action moldboard** . . . to insure a "live" load that rolls freely off the blade . . . moves the load faster and takes full advantage of engine power.



3 **Ample throat clearance** . . . to handle 30 percent bigger loads without disturbing free, rolling action . . . and without jamming dirt, oil-mix or any other material against the circle.

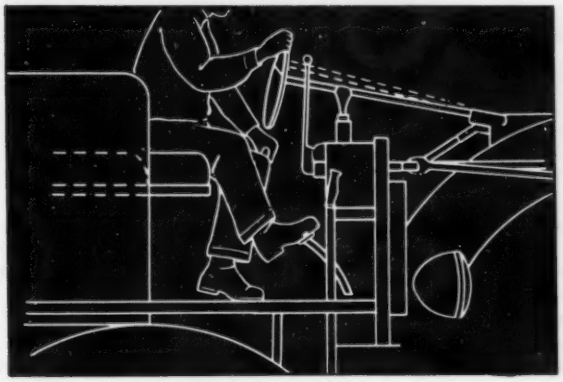


4 **Full blade freedom** . . . the exclusive tubular frame and a long tubular drawbar insure full blading effectiveness on the road, in the ditch or on the slope.



5 **Blading accuracy** is essential. A long wheel base, the tubular frame . . . and lift-cases located directly over the circle, provide smooth, accurate finishing.

6 **Balanced power, weight and traction** . . . a heavy-duty engine and *two-thirds* of the weight concentrated on tandem-drive rear wheels provide the best in traction, positive blade pressure and steer-ability.



7 **Easy control and visibility** — A big platform with plenty of leg room . . . adjustable seat and steering wheel . . . power steering will assure working ease. Single member frame, low control board and tapered platform corners provide "pilot-house" visibility.

This design, that combines working advantages every owner needs and wants, exists in only one motor grader . . . the Allis-Chalmers AD-40. *That's a fact* . . . a fact your Allis-Chalmers dealer will be glad to prove to you. Ask him to show you how the AD-40 gives you the *differences* that mean more work done . . . by a demonstration under on-the-job conditions.

ALLIS-CHALMERS
TRACTOR DIVISION • MILWAUKEE 1, U. S. A.

AD-40 Motor Grader
104 brake hp • Weight — 23,000 lb

What is there about Wausau, Wisconsin, that makes it the ideal home for one of the world's most important insurance companies?

Employers Mutuals of Wausau invited an Atlanta air line president to visit its hometown and find out.

Wausau Story

By **C. E. WOOLMAN**, *President*, **Delta-C&S** *Air Lines, Atlanta*

". . . an unusual distinction for a clergyman." Rev. Ray Kiely (left) and Mr. Woolman.

I'd heard about the Reverend Ray Kiely, pastor of one of Wausau's 33 churches. He had been named Man of the Year for Wisconsin by the Junior Chamber of Commerce. This is an unusual distinction for a clergyman, and I wanted to meet him.

He told me that Wausau businessmen often come to him to talk about applying the Golden Rule to their companies' affairs. That is a good commentary on the type of men they are in Wausau.

This impression was strengthened when I met Arnie Plier, head of Wausau's D. J. Murray Manufacturing Company. He greeted us cordially—dressed for comfort in a flannel shirt. Our chat went far beyond air travel and the big paper-making machines his company produces. Mr. Plier was as proud of the African violets on his window ledge as I am of the orchids *I* grow—and we enjoyed swapping information about our hobbies. You do things like that in Wausau.

I found the same refreshing attitude in Employers Mutuals' people. Their policyholders buy something more than insurance. They buy a way of doing business that is *good*. It springs from a deep belief in doing things right and well. And that, I think, springs from the good life of Wausau itself.

". . . a deep belief in doing things right." Mr. Woolman (right) visits Wausau's A. W. Plier.

Employers Mutuals of Wausau are "good people to do business with."

There's a little bit of Wausau on the sidewalks of New York, and in all 89 cities where this company has offices. We have a reputation for fairness that bends over backwards to give our customers the protection they expect; and for unexcelled claim service. We are one of the world's largest writers of workmen's compensation insurance and handle all lines of casualty and fire insurance as well.

We believe that insurance works at its best when it protects against the *large* losses that are *unpredictable*—rather than the *small* losses that are to be *expected*. For example, we are one of the first companies to offer group hospitalization insurance with new high-maximum benefits to take care of *major* expenses. This is made possible by a "deductible" provision that keeps premiums within reason (similar to the deductible-type automobile insurance you buy).

May we show you how we can tailor such a plan for you? You'll find us good people to talk business with. Phone our local office, or write Wausau, Wisconsin.

Employers Mutuals *of* Wausau

Sidelights for Contractors

By John C. Hayes, Counsel

Hayes and Hayes, Munsey Building, Washington 4, D. C.

Taxes

Long Term Contract.—A circuit court held that a building contractor consistently making its federal tax returns on the completed contract basis had properly reported its income from constructing a government housing project as taxable in 1946, although all the work except approximately 2% had been completed by the end of 1945. The court felt that the contractor was entitled to rely upon the express terms of the Income Tax Regulations "finally completed and accepted," and disagreed with the lower court's conclusion that the income should have been reported in the earlier year of substantial completion.

Deductible Repairs.—Where a building owner installed steel columns and cross-beams to support a sagging third floor and thereafter the premises were used by his tenant for the same purposes and in the same manner as before, a district court decided that the cost could be deducted as repairs which restored the building to its prior condition without increasing its value or prolonging its expected economic life.

Corporate Readjustment.—The Internal Revenue Service has published a ruling approving as a reorganization under Code Section 112(g)(1)(D) a transfer by an existing corporation of assets used in one of its two diverse lines of endeavor to a new corporation in exchange for all of the latter's stock, which was to be distributed to the sole stockholder of the existing corporation, who had no present intention of liquidating either corporation or disposing of the stock. The purpose of the transfer was to insulate each endeavor from the liabilities of the other. Under such facts, it was ruled that no gain or loss would be recognized by either corporation or the sole stockholder as a result of this "spin-off" reorganization.

Punitive Damages.—Under a circuit court decision, punitive damages awarded a taxpayer for fraudulent suits brought against him by a competitor, or treble damages awarded him under the Clayton Anti-Trust Act, do not constitute taxable income. The court observed: "We believe that the ordinary man regards income as something which comes to him from what he has done, not from something which is done to him."

Depreciation.—A warehouse of comparatively cheap construction erected on land leased by taxpayer from an adjoining railroad could be depreciated over the twenty-year term of the lease, a district court ruled, where it appeared that the probable useful life of the building was not more than 20 to 25 years and that taxpayer would not exercise its optional right to renew its lease for a second twenty-year period.

Withholding.—A circuit court concluded that a corporate taxpayer engaging a general contractor to erect a plant, with agreement for retaining 15 per cent of the amounts accruing as the work progressed, was not liable for withholding taxes as the employer of the contractor's workmen, although it consented to make payments from the retained 15 per cent into a fund from which the workmen could be paid. The contractor continued to employ, control, and direct workmen.

Public Contracts

Judicial Review.—With the President's approval of S. 24 (now Public Law 356), government contracts no longer can contain provisions making administrative decisions final on questions of law. (Article on page 36.)

Renegotiation.—A telegram dispatched to a government contractor within the statutory time for commencement of renegotiation proceedings under the 1942 Renegotiation Act was sufficient notice of commencement of such proceedings according to a Tax Court decision, despite the contractor's objection that the notice was unreasonably short in setting the initial conference for the next day. The court noted that the contractor had the opportunity but failed to request a continuance.

The government is entitled to recover interest on repayments of excessive profits under the 1942 Act, a circuit court decided, although the contractor had deposited bonds as security for repayment and the determination was unilaterally made. Interest at 4 per cent was allowed, from the date of the contractor's failure to make repayment after proper notice.

Government's Delay.—In two recent cases the federal or a state government has been held liable to a contractor for negligent delay in carrying out its obligations under a construction contract. In one case the Court of Claims awarded damages against the federal government for its unnecessary delay in delivering government furnished materials. In the second case a circuit court upheld damages against a state highway department for its delay in making rights-of-way available to the contractor as necessary to perform work required by contract.

Overtime Wages.—The comptroller general has ruled that the Defense Department has no authority to require payment of overtime compensation to laborers and mechanics for work in excess of 40 hours per week under its construction contracts. The Eight-Hour Law does not relate to work in excess of 40 hours a week, the ruling points out, but permits the employment of laborers and mechanics in excess of eight hours per day on condition that time and one-half be paid for work in excess of eight hours. (See story on page 26.)

Davis-Bacon Act.—The Court of Claims has permitted a World War II government contractor to recover from the government increased labor costs ordered to be paid by the contracting officer following the Labor Department's change in prevailing wage rates, where the contractor had made a thorough investigation of prevailing wages, the contract fixed the maximum as well as minimum wages, and the Labor Department was inadvertently slow in changing the prevailing rate. The court distinguished the Supreme Court's decision in *U. S. v. Binghampton Construction Co.*, which was referred to under the subject of minimum wage rates in the April *Sidelights*.

A Time to Build

THIS is a time to build—a time for America to catch up on the huge backlogs of needed construction of many kinds which have accumulated in the last 25 years. For in the last quarter of a century we have experienced a series of extreme conditions which have interfered drastically with the constructive work of building the physical facilities required for a better America, a higher standard of living, a soundly expanding economy.

It has been 25 years—except for relatively brief periods—since America could devote its constructive energies and talents without hindrance to the work of building the things required for domestic progress, comfort and convenience—the things a peaceful, prosperous nation wants and needs. Since 1929, this country has gone through a fantastic succession of economic depression, a brief and partial recovery, a sharp recession, the biggest war in history, postwar reconversion, and then years of mobilization for Korea and the cold war.

Each of these periods cast its shadow over the work of constructive building. During the depression, the construction industry was one of the hardest hit of all. The partial recovery was too short to permit it to get going fully again.

During the war, construction for civilian purposes was virtually stopped altogether, because of scarcities of materials and manpower.

The postwar reconversion, though it permitted resumption of needed construction, nevertheless imposed serious handicaps. Unstable prices, continuing shortages of materials and manpower, and the pressure of wartime accumulations of needs upon the nation's economy made the period between the end of the war in 1945 and the Korean outbreak in 1950 resemble a chaotic scramble.

Then came the cold war and Korea, and again there were scarcities of materials and manpower for civilian construction—shortages which have eased only in the last year.

Where has it all left us? It has left the United States gravely short of community facilities required for the everyday civilian needs of a growing population—schools, highways, hospitals, housing, water and sewerage systems, and recreational facilities. Many kinds of industrial and commercial facilities also remain short of needs.

Let there be no misunderstanding about it: The construction industry itself has not suffered in recent years. It has been quite busy. The last seven years, in fact, have seen the largest annual dollar volumes of construction in history, with 1953 the largest of all, showing a total of $46.5 billion of construction put in place.

But construction for community needs has suffered woefully. For years community facilities have been largely crowded out by the construction requirements for military and economic mobilization, including industrial resources expansion. These were, and are, vitally necessary and not to be denied. But so are community facilities vitally necessary, and they must not be too long denied.

Now is the time to build them, because conditions are right in every respect.

President Eisenhower summarized the backlogs of community needs in his Economic Report to the Congress in January. To catch up, he said, we need to spend:

- On highways—$8 billion annually for the next 10 years.
- On schools—$6.75 billion annually for the next 10 years.
- On water and sewerage facilities—$1.8 billion annually for the next five years.
- On hospitals—$1.5 billion annually for the next 10 years.

These items add up to more than $18 billion a year for community needs. Besides these, there are needs for new housing, stores, office buildings, hotels, plants, churches, libraries, etc., amounting to billions more.

This is a time to build these things, because:

- Construction costs are stable, and money is plentiful.
- Materials are abundant, and the flow is dependable.
- Labor is ample, and more efficient.
- Competition among contractors is keener. The contracting industry has the capacity and experience to build these facilities quickly, efficiently and economically.

Listing these favorable factors, the Construction and Civic Development Department of the Chamber of Commerce of the United States in a May bulletin—addressed "not to members of the construction industry, but to their customers"—says this is the best year to build since before the war. (Page 23)

"There is no question about this," the bulletin adds. "It is so long since we have had such a configuration of favorable circumstances that they are well worth pointing out to a clientele that for a decade has been plagued by rising costs and uncertain scheduling."

This is a time to build for still another important reason: The government's defense spending is being reduced, and construction for community needs will fill the gap in our national economy.

There is striking evidence of public realization that this is a time to build in the fact that construction so far this year has proceeded at new record levels.

It is important to the economy to maintain these high levels not only because of actual needs, but also because of the basic nature of the construction industry as a force for economic stability. The fact is that construction is the largest single productive activity, accounting in 1953, for example, for one dollar of every eight dollars spent for goods and services.

Truly, in the slogan of The Associated General Contractors of America, "America progresses through construction." And truly, now is a time to build, that America's progress may continue toward ever higher goals.

PORTABILITY?

it's practically like this . . . with a BUTLER ROADBUILDERS PLANT

Portability is a *designed* feature of BUTLER Roadbuilders Plants. For example, the BUTLER 3-Compartment Aggregate Bin. It loads on any flat car or low bed trailer complete in one piece with batcher columns and bracing removed. And there's ample clearance for tunnels or bridges.

Then there's the 250-barrel circular cement bin. One piece tank construction, pin connected columns and bracing and lifting lugs are so designed that one lift with the crane positions the entire assembly.

Many BUTLER Roadbuilders Plants have been moved more than 50 times — excellent proof of the PLUS-value of BUTLER *Engineered* Design.

Come those *rush* moves from job to job — you'll be glad you own a BUTLER PLANT.

Here's an interesting, profusely illustrated, 20-page Bulletin describing BUTLER Portable Batching Plants. Shows job scenes, photos of step-by-step erection. It's yours for the asking. Send a postcard requesting Bulletin 205.

BUTLER BIN COMPANY

953 Blackstone Ave. • Waukesha, Wisconsin

Chamber of Commerce Advises: '1954 Is the Year to Build'

• Cites Many 'Strategic Advantages' to Investors

» PURCHASERS of construction will get more for their money in 1954 than in any year since before World War II.

Waiting for a better year in which to build is a "long-odds gamble."

These are among conclusions of the publication, *Construction Markets,* issued last month by the Construction and Civic Development Department Committee of the Chamber of Commerce of the United States. Subtitle of the document: "1954—The Year to Buy Construction."

In the bulletin addressed, not to members of the construction industry, but to their customers, Chairman M. W. Watson, Topeka, Kansas, stated:

"It is so long since we have had such a configuration of favorable circumstances that they are well worth pointing out to a clientele that for a decade has been plagued by rising costs and uncertain scheduling. This year the cost situation is firmly in hand and jobs can be scheduled to completion with normal precision. In addition, money can be borrowed on advantageous terms; and pending changes in the Internal Revenue Code offer a better deal for the investor in structures. Finally there is no assurance that any subsequent year will be more favorable to the buyer."

Construction Costs Steady

As to construction costs, the committee stated: "The construction cost indexes reflect a stable situation. While presently ranging somewhat above a year ago, none of the most widely used indexes have shown much fluctuation since mid-summer 1953. These indexes, however, are only partially revealing. They do not evaluate productivity with much accuracy and they do not show the trend in contractors' bids.

"There is no question but that labor is working more efficiently, competition among both general contractors and special trades contractors is much keener than in many years, and contingency and profit margins are being shaved more closely. The result actually is lower cost than the indexes reflect and more value for the dollar expended than has been true since the war."

Materials Flow Good

The committee pointed out that the materials flow is now dependable, adding: "Today warehouses and yards are well-stocked with the whole variety of building materials and equipment, the pipelines are full, and manufacturers also are generously supplied. Not only can orders be filled promptly, but distributors and manufacturers can give better service than was possible in the days of super-pressure demand.

"A contractor can plan the flow of materials to the site with the knowledge that the plan can be effectuated. Consequently he can use his labor force to full advantage and make efficient use of power equipment. By these means, as well as by improved techniques, the construction period has been shortened. Reduction in time means additional savings not reflected in the cost indexes: lower contractors' overhead, less interest paid on construction loans, and less delay in getting the building into an earning position."

Importance of Certainty

In emphasizing the importance of certainty, the committee stated: "In the fullest sense, 1954 can be called a normal year—in which one can be sure of accomplishing the things he sets out to do in the way he planned to do them. It is a year for acting with deliberation and assurance; and because of that is a good year for acting.

"Possibilities of cost-saving lie in careful design, skilled organization, and efficient operation; and these possibilities are all present in the current year. The important thing about costs now is not that they are high or low according to some theoretical concept, but that they are dependable. The certainties of the present situation compared with the uncertainties and vagaries of former years provide the great inducement that the construction industry now offers to its clients."

Money Is Available

Pointing out that money is cheap again, the committee stated: "The steadiness of construction costs is in contrast to the spectacular fall in the cost of money. Since credit is the life blood of construction activity, the drop in interest rates and the increase in the availability of funds since mid-1953 is a matter of profound significance.

"In mid-1953, interest rates on all types of borrowing reached high points exceeding anything experienced in 15 years. With the risk of inflation abated, the task was then to prevent a restraint of credit from becoming an actual contraction. From May 1953 on, all moves by the Treasury and Federal Reserve System were toward easing credit. Interest rates soon began to decline, until at the present time they are close to the levels of mid-1952. An easy money policy is certain to prevail throughout 1954."

Outlook for Credit

Construction financing had a rough time during the period of readjustment, but a marked change in conditions is now evident.

"It may be noted that it is again possible to shop for a good mortgage price as it is for a good construction price. From now on the financial situation promises to have a good deal of stability. Certainly most of the adjustment in money rates is behind us, and it seems unlikely that rates will go much lower."

Tax Advantages Coming

Circumstances more favorable to investors in construction will be brought about by the changes in the Internal Revenue Code which have been passed by the House and are now before the Senate. These will include a choice in methods of calculating depreciation; a greater period for carry-back or carry-forward of losses; better provisions for setting up reserves for future expenses, and others.

What of the Future?

The committee concluded: "When prices are stabilized and the urgency to act is reduced, there may be a temptation to wait for even better conditions. Today, waiting is a long-odds gamble.

"The current period has important strategic advantages: stability, efficiency, eager sellers, close bidding, and willing labor are all now available; and along with these the possibility of creating assets before another upturn in prices. These should be inducement enough."

Chamber of Commerce Construction Policies

• Local and State Responsibilities Stressed at Annual Meeting

» THE CHAMBER of Commerce of the United States restated and revised some old policies affecting construction and adopted several new ones during its 42nd convention in Washington, D. C., April 25-28. Below is a brief review of the more important declarations.

Building "fix-up" activity, is a new policy designed to "conserve property" and help "stabilize" the construction industry. Proposal emphasizes maintenance, repair and modernization market in building construction. The chamber estimates that the current expenditure for this type of work is $6.6 billion and sees possibility of increasing amount 50%.

Housing and community development policy revised to stress local and state governments' responsibility in meeting shelter requirements for needy families. Policy on urban redevelopment also expressed in terms of local responsibility, emphasizing need for "comprehensive city planning."

Water Resources

Dams should not be built primarily for power purposes but should generate power incidental to justifiable multi-purpose projects, the chamber revised its electric power policy to read. The federal government should not construct steam-electric plants to supplement its hydro-electric power or assume in any other way the responsibility of supplying power to any area, the policy continued.

Development of water resources should be carried out by a "board of impartial analysis," which would expedite flood control, soil conservation and reclamation, according to revised chamber policy. The board, to be appointed by the President, would make recommendations to the Chief Executive and the Congress on the economic value, priority of uses, federal and local shares, as well as the "timeliness" of basin and project plans proposed by basin committees.

The board should also recommend which federal agencies are to carry out construction and operation of a facility, and later check to see if the project was built for a cost in line with original estimates; if its benefits are commensurate with any necessary re-estimated costs; and if the project will accomplish the declared purposes.

Navigation works should be limited to those consistent with the "fullest use of the rivers for all purposes in the public interest." Congress should also recognize the rights of states in water utilization and control, the revised policy on this subject stated.

Reclamation law of 1902, which protects the rights of the states relating to the use of water, should be recognized by Congress and should always be preserved.

Stream pollution legislation by the federal government should preserve the principles of state control and local initiative and responsibility. The chamber policy also asked that special tax benefits be given to industries that install pollution abatement works that comply with state laws and which aid the federal pollution control plan.

Defense contracts policy was revised calling for "close and firm initial pricing" with no deviations from this practice except during national emergency when large volumes of procurement must be accomplished quickly.

Industrial Relations

Collective bargaining procedures between employers and representatives of employees should be carried on "with conscientious endeavor to understand each other's problems and in the interest of promoting sound em-

Watson Heads Chamber Group

Martin W. Watson, Topeka, Kansas, contractor, past president of the A.G.C., is the new chairman of the Construction and Civic Development Committee of the Chamber of Commerce of the United States.

Mr. Watson

Mr. Watson was appointed by Clem D. Johnston, newly elected president of the Chamber.

H. W. Richardson, Editor, Dies

Harold W. Richardson, 53, editor of *Construction Methods and Equipment*, died May 12 of a heart ailment at his home in New Providence, N. J.

Mr. Richardson, known as "Rich" to his friends, had been with McGraw-Hill magazines for 26 years, first as construction editor and western editor of *Engineering News-Record* and later executive editor of *Construction Methods and Equipment* before becoming its editor in March, 1949.

Born in Sioux City, he grew up on a ranch in Colorado and graduated with a civil engineering degree from the University of Colorado.

Mr. Richardson

He was a construction engineer with the Bates and Rogers Construction Corp., A.G.C., Chicago, from 1923-28.

During World War II, Mr. Richardson was a technical war correspondent for *Engineering News-Record*, accredited to both the Army and Navy, and covered operations of the Corps of Engineers and the Seabees in Alaska, the Aleutians and the Western Pacific.

Mr. Richardson later landed in Japan with occupation troops and was in the first group to reach the atom-bombed city of Nagasaki.

He served in an advisory capacity to many government agencies during World War II and the Korean conflict. He was also chairman of the construction section, National Safety Council in 1951-52.

He had many fridnds among A.G.C. members and attended regularly the association's annual conventions.

Surviving are his wife, Marguerite Forrest Richardson; a daughter, Mrs. Alan Robison, Santa Fe; a son, James Ward Richardson, Washington, D. C.; a brother, Capt. Leslie E. Richardson, USN (Ret.), also of Washington, and four grandchildren.

ployment relations," revised policy stated.

Occupational safety should be carried out along lines of principles set forth in 1950 report of committee on labor-management cooperation of the President's Safety Conference. Reaffirmed chamber policy stated that management has "legal and moral" obligation in providing employee safety

Workmen's compensation policy revised to favor (1) state provision for workers' benefits for industrial injuries; (2) state and private industrial safety programs, and (3) state second injury fund laws. Federal laws covering second injuries should deal only with federal workman's compensation, it added. Emphasis on state jurisdiction in these fields is new.

Australian Building Team Visits U. S. Cities; Group Will Study Ways of Improving Industry

The Australian Building Industry Productivity Team was in the United States in May and early June as part of a tour which will take them around the world.

The team was composed of representatives of the Building Industry Congress from all of the states in Australia. There were contractors, architects, subcontractors, and materials manufacturers in the group who were making an intensive study of the building industry in various countries to learn ways of improving the industry in Australia.

In the United States the team visited Boston, New York, Washington, Pittsburgh, Detroit, Chicago, Houston, Los Angeles and San Francisco.

The Associated General Contractors of America, the American Institute of Architects, American Society of Civil Engineers, Producers' Council, National Association of Home Builders, and Chamber of Commerce of the United States were the national associations which, in cooperation with their chapters and local organizations, assisted the visitors.

In the cities visited, A.G.C. members took the team to various projects and explained American methods. In Washington, A.G.C. representatives, and others representing the government, architects, engineers, materials producers, and others explained organization of the industry on a national scale.

Past President William Muirhead, Durham, N. C.; Welton A. Snow, manager, Building Contractors' Division; and Robert A. Moyer, Charles H. Tompkins Co., Washington, D. C., were A.G.C. speakers at the meetings.

Before arriving in this country, the team had made stops in Singapore, Beirut, Athens, Rome, Paris and London. When the team returns to Australia the members will study their findings and make a report to the building industry.

The A.G.C. was host at a dinner given last month for the Australian Building Industry Productivity Team in Washington, D. C. Pictured, left to right, are: James D. Marshall, A.G.C. Executive Director; Frederic J. Blakeney, Counselor, Australian Embassy; Prof. Brian B. Lewis, leader of the team; A.G.C. Past President William Muirhead, Durham, N. C.; and Edmund R. Purves, Executive Director, American Institute of Architects.

Government Cannot Force Contractor to Pay Overtime for Excess of 40 Hours per Week

• Comptroller General Rejects Proposal of Labor Secretary

» THE Comptroller General of the United States has ruled that the Defense Department does not have the authority to place in a construction contract the requirement that the contractor pay overtime for work in excess of 40 hours per week when laborers and mechanics do not work more than 8 hours in any day.

This decision, in Opinion Letter No. B-119547, by Acting Comptroller General Frank H. Weitzel to the Secretary of Defense, April 16, establishes a precedent for other cases of a similar nature. Because of the interest in the decision, text of the letter is printed below.

Text of Letter

"Reference is made to letter of the Assistant Secretary of Defense dated April 1, 1954, requesting my opinion as to whether there may be administratively included in Department of Defense construction specifications and contracts, as suggested by the Secretary of Labor, an appropriate provision which would limit the work week of laborers and mechanics to 40 hours per week with the payment of overtime compensation for hours worked in excess of 40 hours per week. In that connection, you state that the Secretary of Labor has noted that contractors engaged in military construction at Little Rock, Arkansas, have been employing their workers 8 hours per day, 7 days per week, or a total of 56 hours per week without the payment of overtime compensation.

"It is further stated in your letter that it is the feeling of the Secretary of Labor that such an administrative restriction 'would be an important contribution toward promoting and maintaining fair labor standards prevailing in that area, and toward promoting equality of bidding opportunity among bidders who are interested in maintaining what seems to be generally conceded as a desirable and acceptable fair labor standard'; and that such restrictions generally would coincide with the hourly and overtime requirements of the Walsh-Healey Public Contracts Act and the Fair Labor Standards Act.

"The Congress has enacted various statutes dealing with labor standards to be observed by Government contractors, among them the Davis-Bacon Act, requiring the payment of minimum wages, the Eight-Hour Law, forbidding work in excess of 8 hours per day without overtime pay, the Walsh-Healey Act of 1939, requiring specific representations and stipulations relating to maximum hours, minimum wages, etc., in all supply contracts exceeding $10,000, and the Anti-Kickback Act, prohibiting rebates of wages by employees. Materially distinguishable from the above statutes is the Fair Labor Standards Act of June 25, 1938, which is a statute of general application designed for the declared purpose of correcting and eliminating unwholesome labor conditions and unsavory commercial practices in industries engaged in interstate commerce, and one which, while vesting in the employee a direct legal remedy for recovery of unpaid wages, neither authorizes nor requires that government contracts contain stipulations as to compliance therewith.

"With reference to the cited Eight-Hour Law, the provisions thereof do not relate to work in excess of 40 hours per week or the payment of overtime compensation for work in excess of 40 hours a week. That statute merely *permits* the employment of laborers and mechanics in excess of *8 hours per day* upon the condition that time and one-half be paid for overtime work in excess of 8 hours. There is no express statutory provision which requires that the employment of workers under government construction contracts be limited to 40 hours per week with payment of overtime for hours worked in excess of 40 hours."

Purpose of Appropriations

"The intended purpose of the proposed provision would not appear to insure that the work under a particular contract will be of higher quality or more promptly performed, but primarily is to secure more advantageous working conditions for the laborers and mechanics performing the work. Also, it is evident that the proposed provision would tend to increase the cost to the government of the work to be done. Thus, the basic question for consideration is whether appropriations made by the Congress for military construction may be utilized in part for the betterment of working conditions among those employed on such construction work.

"The rule is well-settled that an appropriation is available only to accomplish the particular purposes authorized by the appropriation to be done, and may be expended only for things having a direct connection with and essential to carrying out of the stated general purposes for which the funds were granted. Obviously, compliance with the proposed provision would not have such a direct connection with construction work as to be regarded as essential to its accomplishment."

Conclusions

"For these reasons I am of the opinion that the proposed provision would tend to restrict competition and to increase the cost to the government of the work to be done, and that compliance therewith may not be regarded as reasonably requisite to the accomplishment of work under a particular construction contract. Hence, in the absence of statutory authorization therefor, there is no legal justification for the inclusion of such a minimum work week and overtime wage provision in the Department of Defense construction specifications and contracts."

Joint Board in 7th Year

An agreement reached recently by its participants continues for another year operations of the National Joint Board for the Settlement of Jurisdictional Disputes in the Building and Construction Industry.

During the 6-year life of the board, 15 agreements have been reached among the international unions on jurisdictional problems, aside from regular functions of the board.

In 1953 work stoppages decreased 10 per cent, picket lines decreased 9 per cent, and there is evidence that the duration of strikes declined.

While there have been a number of improvements in the effectiveness of the board during its 6 years of life, observers cite the need for better compliance of unions with its decisions and orders to make unnecessary recourse to the National Labor Relations Board and the courts for relief from stoppages. The Associated General Contractors of America, other employer groups, and building trades unions operate the board.

Clarifies Distribution of Witheld U.S. Funds

The Comptroller General of the United States, in Opinion Letter No. B-117954 to the General Services Administrator, has clarified the right of government agencies to distribute to workers funds which may be withheld from construction contractors under federal contracts.

Straight-Time Pay Only

He pointed out that under the provisions of government contracts government officials may withhold from payments due government construction contractors amounts equal to unpaid straight-time and overtime pay due to the construction workers.

Such amounts withheld may be used by the government to pay straight-time wages due the workers under the Davis-Bacon Act whether they have received wages less than those required by the contract or have received no wages whatever. But such amounts may not be used to pay workers any overtime compensation due them under the Eight-Hour Law.

8-Hour Law Doesn't Apply

Acting Comptroller General Frank H. Weitzel gave the following explanation:

"The Eight-Hour Law imposes no obligation on the Government to distribute earned moneys of contractors to aggrieved workers for failure to pay overtime compensation, and none may be implied from the law. Thus it would appear that no legal basis exists for considering overtime pay contemplated by the Eight-Hour Law as an extension of the prevailing wage rate under the Davis-Bacon Act, especially since the two acts are not *pari materia* or co-extensive."

No Distribution Authority

"While, as a matter of contract, there may be withheld from moneys otherwise due a contractor amounts representing nonpayments of overtime compensation since there is clearly a failure of consideration under the contract, there is no authority of law whereby this office or any other agency of the government could distribute such withholdings to workers who have not been paid overtime for work in excess of 8 hours per day. A copy of this decision is being furnished the Secretary of Labor for his information."

Recent Labor Cases Affecting Construction

• Supreme Court Again Rules on Federal-State Jurisdiction

» THE United States Supreme Court last month again issued a decision on the jurisdiction of federal and state courts over labor disputes affecting interstate commerce when it held that the Federal District Court in Los Angeles acted properly in enjoining Capital Services, Inc., from enforcing a picketing injunction it had obtained from a state court.

This conflict over state and federal jurisdiction was recently emphasized in the Garner case which the Supreme Court decided in December (January CONSTRUCTOR, page 27).

In the Garner case, the court said that with the exception of disputes involving public safety and order, or matters pertaining to state right-to-work laws, (under Section 14 (b) of the Taft-Hartley Act) the National Labor Relations Board was granted exclusive jurisdiction to handle disputes affecting interstate commerce to the exclusion of state authorities acting under state laws.

The Capital Services case came before the Supreme Court for decision on the question: "In view of the fact that exclusive jurisdiction over the subject matter was in the National Labor Relations Board (*Garner* v. *Teamsters Union*), could the Federal District Court, on application of the Board, enjoin Petitioners from enforcing an injunction already obtained from the State Court?"

Facts of Case

Facts in the case were that a union sought unsuccessfully to organize employees of Capital Services, which manufactures and distributes bakery products in California. The union subsequently picketed retail stores which continued to handle Capital Services products.

The company made two counter moves. First it filed suit for an injunction against the union in a California court, and a few days later filed a charge of unfair labor practices with NLRB. The California court issued a preliminary injunction banning picketing at all retail stores.

The NLRB Regional Director concluded, after investigation, that part of the union's activities were legal and part were illegal. NLRB issued an unfair labor practice complaint, and petitioned the Federal District Court for an injunction restraining the illegal union actions. NLRB simultaneously filed suit in the same Federal District Court asking that Capital Services be enjoined from enforcing the state court injunction.

Court Decision

Justice Douglas wrote the Supreme Court decision which upheld the Federal District Court and NLRB, concluding:

"The state court injunction restrains conduct which the District Court was asked to enjoin in the Sec. 10 (1) proceeding brought in the District Court by the Board's Regional Director against the union. In order to make the Sec. 10 (1) power effective the Board must have authority to take all steps necessary to preserve its case. If the state court decree were to stand, the Federal District Court would be limited in the action it might take. If the Federal District Court were to have unfettered power to decide for or against the union, and to write such decree as it deemed necessary in order to effectuate the policies of the act, it must be freed of all restraints from the other tribunal. To exercise jurisdiction freely and fully it must first remove the state decree. When it did so, it acted 'where necessary in aid of its jurisdiction'."

Two NLRB Cases

The NLRB issued two decisions affecting secondary boycotts in the construction industry last month. The cases involved the Denver Building and Construction Trades Council and the Carpenters District Council of Denver. The cases were similar in that each involved labor disputes and secondary boycotts encountered by owners who did not utilize the services of a general contractor. The owners either employed men directly or contracted for work to be done by specialty contractors.

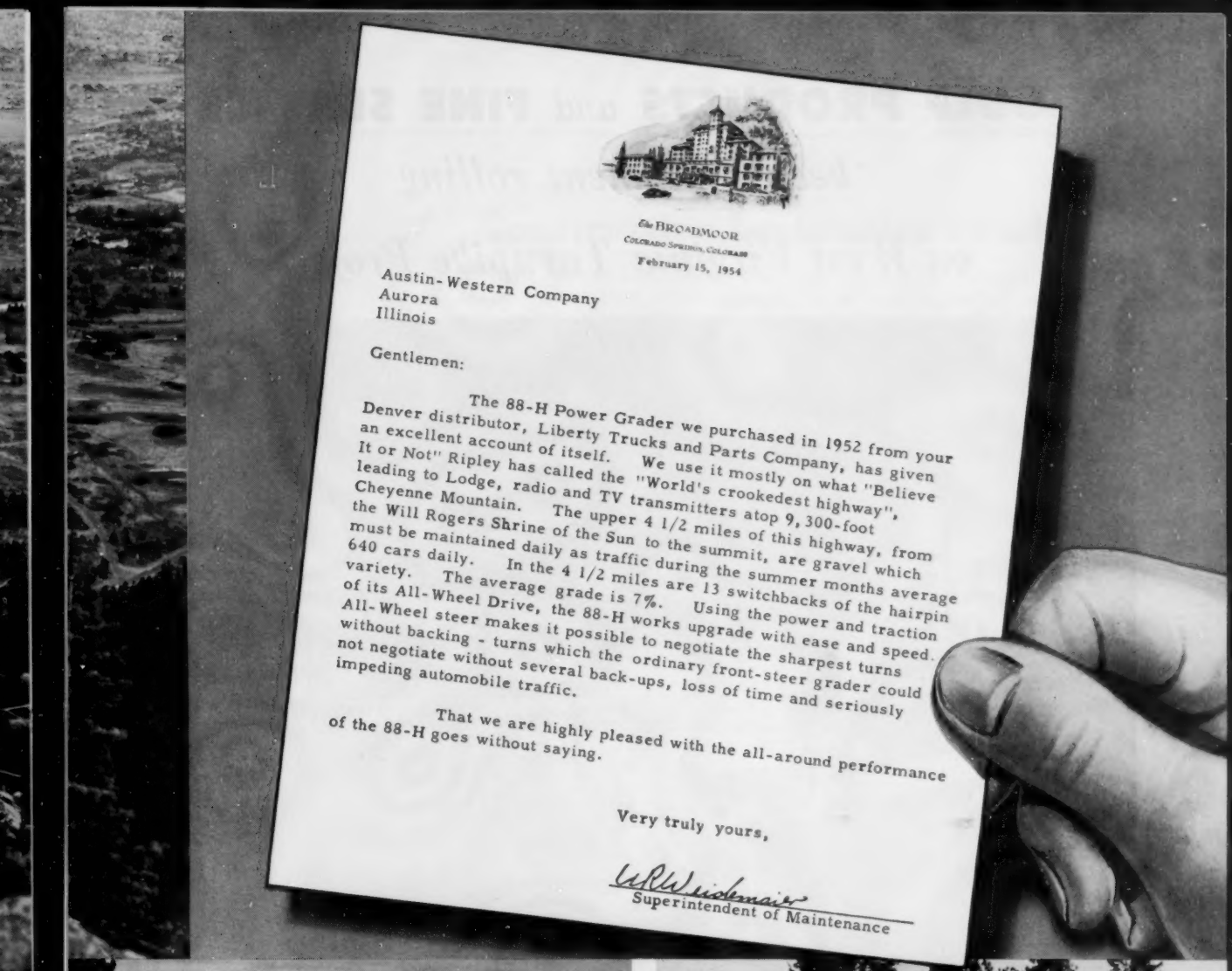
The NLBR held in each case that the unions seeking to organize one of the specialty contractors or "subcontractors" violated the Taft-Hartley Act by picketing the entire project without restricting the dispute to the particular contractor from whom they sought recognition. In each case the Board treated the owner as though he were a general contractor.

Lying directly at the foot of towering Cheyenne Mountain, the Broadmoor with its private golf course, lake, ice palace and rodeo stadium is one of the famous resort hotels of the world.

THE GRADER THAT GOES MOUNTAIN CLIMBING

Grades too steep and curves too sharp for the ordinary rear drive, front steer motor grader are all in a day's work for the Austin-Western Power Grader, thanks to the greatly increased traction and power-at-the-blade of its exclusive All-Wheel Drive, and to the unequalled "turnability" of its exclusive All-Wheel Steer.

To the average owner, not faced with the problem of climbing mountains, ability to *work successfully upgrade* means corresponding ability to *move more material on the level* . . . ability to negotiate mountain curves spells maneuverability that saves time on every job.



The BROADMOOR
COLORADO SPRINGS, COLORADO

February 15, 1954

Austin-Western Company
Aurora
Illinois

Gentlemen:

The 88-H Power Grader we purchased in 1952 from your Denver distributor, Liberty Trucks and Parts Company, has given an excellent account of itself. We use it mostly on what "Believe It or Not" Ripley has called the "World's crookedest highway", leading to Lodge, radio and TV transmitters atop 9,300-foot Cheyenne Mountain. The upper 4 1/2 miles of this highway, from the Will Rogers Shrine of the Sun to the summit, are gravel which must be maintained daily as traffic during the summer months average 640 cars daily. In the 4 1/2 miles are 13 switchbacks of the hairpin variety. The average grade is 7%. Using the power and traction of its All-Wheel Drive, the 88-H works upgrade with ease and speed. All-Wheel steer makes it possible to negotiate the sharpest turns without backing - turns which the ordinary front-steer grader could not negotiate without several back-ups, loss of time and seriously impeding automobile traffic.

That we are highly pleased with the all-around performance of the 88-H goes without saying.

Very truly yours,

W. R. Weidemaier
Superintendent of Maintenance

Entering the hairpin switchback shown in the long shot at the left, the "88-H" steers front and rear wheels in opposite directions to complete *without backing* a turn that would require several time-consuming backups with a front steer grader of comparable size.

Heavy traffic on the "world's crookedest highway" makes it essential that the gravel surface be maintained in perfect condition every hour of the day. Like all Austin-Western Power Graders, the "88-H" has ample traction for work uphill as well as downhill.

Austin-Western

Power Graders · Motor Sweepers
Road Rollers · Hydraulic Cranes

BALDWIN · BLH · LIMA-HAMILTON
Construction Equipment Division

Manufactured by
AUSTIN-WESTERN COMPANY
Subsidiary of Baldwin-Lima-Hamilton Corporation
AURORA, ILLINOIS, U.S.A.

GULF PRODUCTS *and* FINE SERVICE

keep equipment rolling

on West Virginia Turnpike Project

Bates & Rogers Construction Corporation, Chicago, Illinois, have the contract for the only tunnel on the West Virginia Turnpike Project, which includes lining and flooring. It will be a two-lane tunnel, 2665 feet long and with a finished diameter of 36 feet. Work on this particular contract involves 25,000 cubic yards of open cut excavation, 91,800 cubic yards of tunnel excavation, 20,800 cubic yards of concrete tunnel lining, and the installation of permanent steel supports. Bates & Rogers also have the contract for the concrete footers and piers supporting the Four Mile Fork Bridge adjacent to the south end of the tunnel, and another contract for the flooring of this bridge plus two other bridges. As usual, this prominent Chicago contractor is getting smooth performance from every unit of equipment through the use of Gulf quality petroleum products.

ANOTHER important construction job where equipment is making an outstanding record of dependable performance with the help of Gulf Quality Products and Fine Service.

Here is why Gulf is the preferred supplier of petroleum products to so many leading contractors, like Bates & Rogers Construction Corporation, for example: Gulf lubricants provide an extra margin of protection—whether it is hot or cold, wet or dry. And Gulf fuels help insure full power.

When Gulf quality products are combined with expert engineering counsel and prompt delivery service, you get a Gulf package that is bound to smooth the way to greater yardage and lower maintenance costs.

Gulf quality lubricants and fuels—and that Good Gulf Service—are quickly available to you through more than 1400 warehouses in 31 states from Maine to New Mexico.

GULF

Construction Legislative Checklist

» STATUS of major federal legislation affecting the construction industry, acted upon or pending in Congress as of June 1:

Laws Enacted

Judicial review bill (S. 24) to permit court review of disputes arising under government contracts, and to offset effects of Supreme Court decision in the Wunderlich case, was signed by the President May 11. Public Law 356 (page 36).

Federal aid highway bill (H.R. 8127) authorizing nearly $1 billion annually in federal aid highway funds for the fiscal years starting July 1, 1955 and 1956 was signed by the President on May 6. Public Law 350 (page 46).

St. Lawrence Seaway bill (S. 2150) authorizing United States participation in the project was signed by the President May 17. Public Law 358 (page 59).

Third Supplemental appropriation bill (H.R. 8481), including $55 million for school construction in federally-congested areas, was signed May 11. Public Law 357.

Commission on Intergovernmental Relations has been extended until March 1, 1955 by Public Law 302, approved March 1. It is studying justification for all federal aid programs and appropriate sources of revenue for federal, state and local governments.

Excise tax reductions, and a continuation of the federal gasoline tax, were made in Public Law 324 approved March 31.

Bills in Conference

Civil functions appropriation bill (H.R. 8376) was passed by Senate May 25 and sent to conference. Bill totals $484 million for flood control and rivers and harbors projects. Senate added $53 million.

Independent offices appropriation bill (H.R. 8583) providing more than $5 billion for 30 agencies was passed by Senate May 19. Both Senate and House rejected proposals for more funds for TVA. Bill is now in conference to compromise differences.

Lease-purchase bill (H.R. 6342) which authorizes Post Office and General Services Administration to acquire public buildings through lease-purchase was passed by the Senate April 20. Having been passed by the House in June 1953, it was sent to conference to adjust differences.

Bills Passed One House

Interior Department appropriation bill (H.R. 8680) which appropriated approximately $190 million for construction by the Bureau of Reclamation and other agencies for the fiscal year starting July 1 was passed by House April 6. The Senate Appropriations Committee was expected to report the bill to the Senate early in June. Force account limitations were again included.

Housing bill recommended by the Administration (H.R. 7839) was passed by the House on April 2. After investigations of FHA were started, the House Banking and Currency Committee restudied the bill and was expected to make another report early in June. Senate Banking and Currency Committee reported the bill on May 28.

Military construction bill (H.R. 9242) which authorizes projects totaling $875 million was passed by the House May 25 and sent to the Senate where it was referred to the Armed Services Committee. The House Armed Services Committee announced that it will consider a bill to authorize $350 million in military housing projects early in June.

The tax bill (H.R. 8300) which will make a complete and comprehensive revision of tax laws was passed by the House in March. The Senate Finance Committee has been hard at work perfecting the bill and was expected to report early in June (May CONSTRUCTOR, page 28).

Contract renegotiation bill (H.R. 6287), which would extend the Renegotiation Act until December 31, 1954, was passed by the House in July 1953. The Senate Finance Committee did not report a bill for action and the act expired last December. The Senate committee has recommended amendments, including increasing the exemption from $250,000 to $500,000. Senate action expected in June. Bill would become effective as of January 1, 1954.

Federal water development loan bill (S. 3127) would extend to the entire country the authority which the Secretary of Agriculture now has for making loans in 17 Western states. The Senate passed the bill May 24. The House Agriculture Committee on May 21 reported a similar bill. The bills are now before the House.

Federal aid hospital construction bill (H.R. 8149) has been passed by the House and is before the Senate. Such legislation, recommended by the President, would extend authority of the federal government to make grants to state and local governments and private groups to assist in construction of hospitals and other health facilities. The House Foreign and Interstate Commerce Committee has held hearings on a bill (H.R. 7700) to permit insurance of mortgage loans for hospital construction.

Bills Before Committees

Social security legislation (H.R. 7199) to extend social security coverage and to provide for increase in the taxes as recommended by the Administration has been before the House Ways and Means Committee. It was expected to be reported for House action early in June.

Private atomic power development would be authorized by the bills (S. 3323 and H.R. 8862) which are being considered by the Joint Atomic Energy Committee. Public hearings were being held in May with a view to action by Congress before it adjourns.

School federal aid legislation (S. 359, S. 2601, S. 2779) has been the subject of public hearings during May by a subcommittee of the Senate Labor and Public Welfare Committee. Such legislation probably will be delayed pending further study of recent Supreme Court decisions on segregation. Similar bills are pending in the House.

Federal aid for airport construction was considered by Congress in H.R. 8067, the State-Justice-Commerce Department appropriation bill, which contains no funds for airport construction; and in S. 3410, the bill which would amend the Federal Airport Act. Hearings were held in May by Senate Appropriations and Interstate and Foreign Commerce Committees (page 38).

(Continued on page 32)

(Checklist—Continued)

Bills Pending

Subcontractor bills to require general contractors to name proposed subcontractors and amounts of their offers in bids on federal public works are pending in Congress. The House Rules Committee on March 5 voted to table the bill (H.R. 1825), which was a stronger action than the committee had taken in February when it denied a rule for the bill's consideration on the floor. The companion (S. 848) is on the Senate Consent Calendar, but objections to its consideration have been raised each time it has come up.

Upper Colorado reclamation project bill (H.R. 4449), which authorizes expenditures of $1 billion, was approved by the House Interior and Insular Affairs Committee on May 18 by a one vote margin, 13 to 12. The committee will seek a rule for its consideration on the House floor. A similar bill has been introduced in the Senate, but no action taken. As reported, the bill includes the Echo Park Dam in Dinosaur National Park.

Bills Rejected

Taft-Hartley Act amendments proposed in S. 2650 were recommitted to the Education and Labor Committee by the Senate on May 7 by a 50-42 vote. The Senate committe had reported amendments along lines of those recommended by the President. The House Labor Committee had tentatively approved a somewhat similar bill but was awaiting Senate action. The Senate action makes Congressional action on labor legislation unlikely this session.

Investigations

Union welfare funds are the subject of investigation by subcommittees of both the Senate Labor and Public Welfare Committee and the House Labor Committee. The committees will investigate primarily the opportunities for diversion or abuse of funds collected. (See story on this page.)

Federal Housing Administration's handling of its programs of insured mortgages for property improvement loans and apartment construction are under investigation by three Congressional committees: Senate Banking and Currency, Senate Appropriations, and Joint Committee on Reduction of Nonessential Federal Expenditures. Hearings have recessed until after passage of the housing bill.

Congress to Study Welfare, Pension Funds

» INVESTIGATIONS of welfare and pension funds covered by collective bargaining agreements, as recommended by the President, will be started in June by two Congressional committees.

Senator Irving M. Ives (R., N.Y.) is chairman of a subcommittee of the Senate Labor and Public Welfare Committee which will handle the investigations for the Senate. Samuel K. McConnell, Jr. (R., Pa.) will head a special subcommittee of the House Education and Labor Committee of which he is chairman.

The President wrote in his January 11 labor message to Congress: "The act presently prohibits an employer from making payments to a union to assist in the financing of union welfare funds unless the fund meets certain standards. These standards are not adequate to protect and conserve these funds that are held in trust for the welfare of individual members.

"It is my recommendation that Congress initiate a thorough study of welfare and pension funds covered by collective bargaining agreements, with a view to enacting such legislation as will protect and conserve these funds for the millions of working men and women who are the beneficiaries."

Other members of the Senate subcommittee are: Senators William A. Purtell (R., Conn.), Barry Goldwater (R., Ariz.), James E. Murray (D., Mont.), and Matthew M. Neely (D., W.Va.).

Other members of the House subcommittee are: Representatives Wint Smith (R., Kans.), Albert H. Bosch (R., N.Y.), Joseph F. Holt (R., Calif.), John J. Rhodes (R., Ariz.), Graham A. Barden (D., N.C.), Wingate H. Lucas (D., Texas), Roy W. Wier (D., Minn.) and Howard S. Miller (D., Kans.).

Chairman McConnell has stated: "It is not our function to prosecute malefactors. Rather, it will be our purpose to determine whether the opportunity for diversion or other abuse of these funds exists. If it does, and the evidence developed in recently conducted inquiries by the committee in the Midwest points to that conclusion, legislation to afford the necessary protection to the wage earner and his dependents is needed."

Effectiveness of state laws designed to regulate such funds also will be studied. Mr. McConnell indicated he believed that the great majority of the funds are soundly devised and well administered. But he expressed confidence that those who are now administering funds with integrity will not object to legislation requiring all funds to be administered prudently.

Military Construction Bill

The House on May 25 passed and sent to the Senate a military public works construction bill which authorizes projects totaling $875 million. Appropriations will be made in a later bill for work to be undertaken during the fiscal year starting July 1. Authorizations for the services:

Army: United States, $162.9 million; ouside continental United States, $19.3 million; classified installations and facilities, $87.7 million; total, $269.8 million.

Navy: United States, $109.2 million; outside continental United States, $30.8 million; classified installations and facilities, $63.4 million; total, $203.3 million.

Air Force: United States, $393.6 million; outside continental United States, $9.8 million; total, $403.4 million.

Alaska communications system: $462,600.

In unanimously reporting the bill for favorable action, the House Armed Services Committee stated:

"The committee feels that it can state without reservation that this program has been the best conceived, most carefully studied, and most simply presented of any military public works program which it has had before it. In great part, this is due to the activities of the coordinating and review group headed by Rear Adm. J. F. Jelley in the Office of the Assistant Secretary of Defense for Properties and Installation, Franklin G. Floete.

"That group managed to secure civilian engineers who had had previous experience with the Army, Navy and Air Force construction programs and who could, therefore, make a detailed review and analysis of the construction projects submitted by the services. All through the program, determinations were made whether the estimates of costs were in line with bidding experience, and with respect to each of the services, whether the estimates of cost were consistent with those used by the sister services for similar construction."

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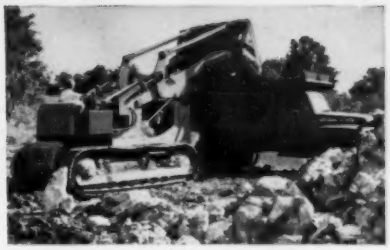

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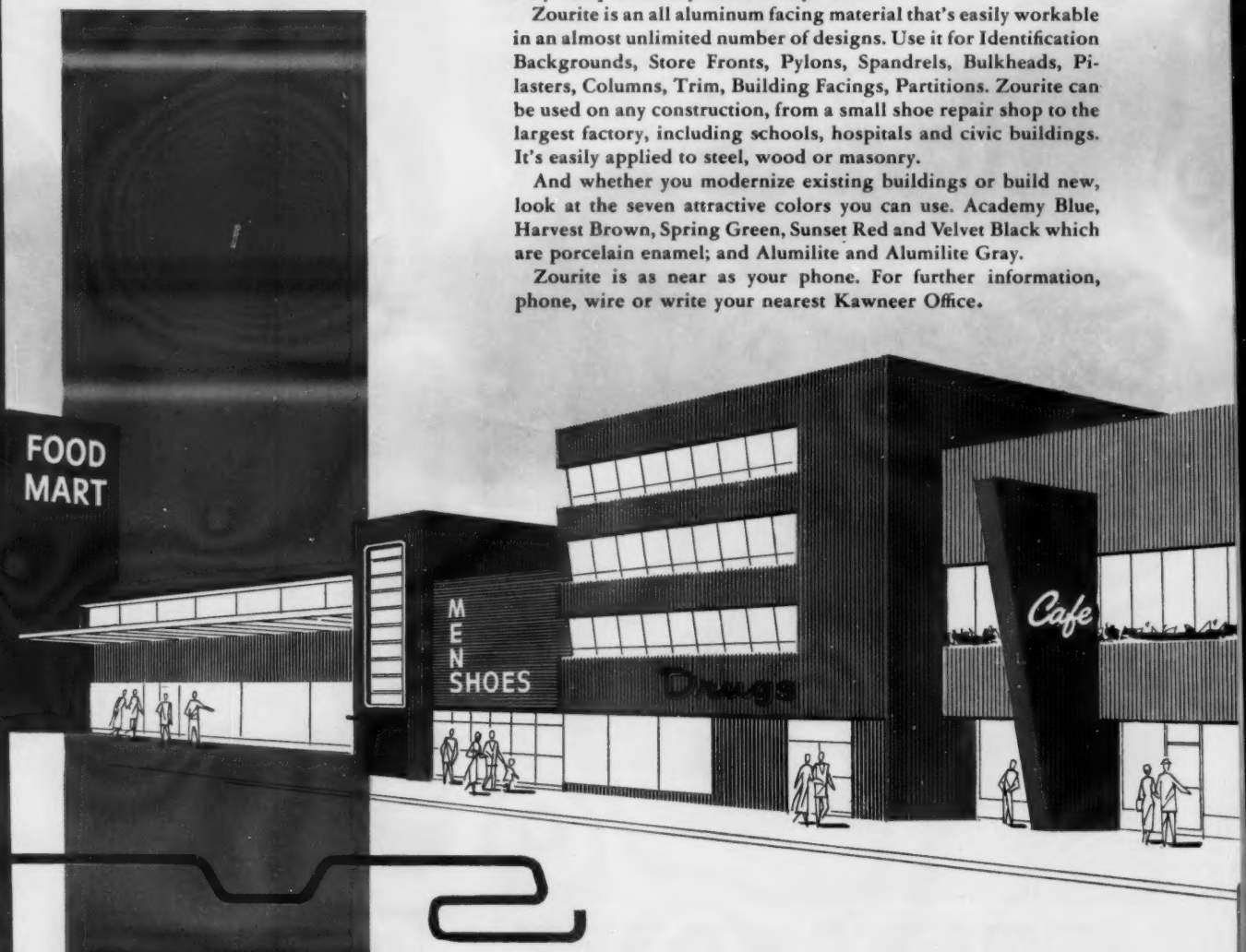

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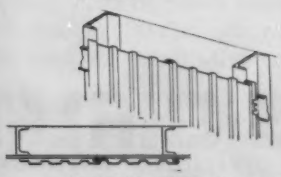

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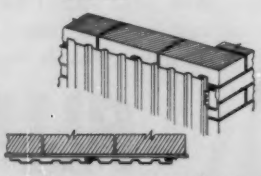

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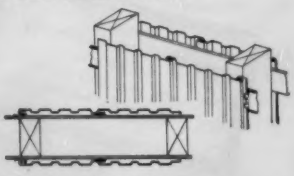

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Eisenhower Signs Wunderlich Bill into Law

• A.G.C. Wins Fight for Right of Judicial Review of Disputes

» THE President on May 11 signed the bill, S. 24, as amended, which became Public Law 356, 83rd Congress.

This law assures the right of judicial review of disputes arising under federal contracts, and was passed by Congress to offset the effects of the United States Supreme Court decision in the Wunderlich case of November 26, 1951.

The Associated General Contractors of America had taken the lead in recommending that the Congress take such action (May CONSTRUCTOR, page 25). Following signature of the law, Managing Director H. E. Foreman stated:

"This legislation will operate in the public interest not only by removing an inequity in laws governing contractual relationships, but also by alleviating another hazard to the business of contracting for the government, which should prove of lasting value to the public.

"We do not believe that the new law will stimulate any great volume of cases going to the Court of Claims, because that is a costly and time-consuming process. But it should result in proper consideration of contractors' rightful claims by contracting officers and department heads realizing that their decisions can be subject to judicial review."

House Report

Because the legislation as finally enacted was in the language recommended by the House Judiciary Committee, its report, No. 1380 is of importance in establishing Congressional intent. After reviewing the history of the legislation, and the Supreme Court decision and the dissents, the committee stated in part:

"After extensive hearings it has been concluded that it is neither to the interests of the Government nor to the interests of any of the industry groups that are engaged in the performance of Government contracts to repose in Government officials such unbridled power of finally determining either disputed questions of law or disputed questions of fact arising under Government contracts, nor is the situation presently created by the Wunderlich decision consonant with tradition that everyone should have his day in court and that contracts should be mutually enforceable. . . .

"A principal change which the amendment effects in S. 24 is to restore the standards of review based on arbitrariness and capriciousness. These have long been recognized as constituting a sufficient basis for judicial review of administrative decisions. . . ."

'Substantial Evidence'

"The proposed amendment also adopts the additional standard that the administrative decision must be supported by substantial evidence. The requirement that administrative action be supported by substantial evidence is found in the Administrative Procedures Act. As understood by the committee and as interpreted by the Supreme Court in *Edison Co. v. National Labor Relations Board* 'substantial evidence' means 'such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.'

"The inclusion of the standard 'not supported by substantial evidence' should also correct another condition arising out of the lack of uniformtiy between the various departments and agencies concerned in the appellate hearing procedures under the disputes clause. It has been brought to light in public hearings that it is the exception rather than the rule that contractors in the presentation of their disputes are afforded an opportunity to become acquainted with the evidence in support of the Government's position.

"It is believed that if the standard of substantial evidence is adopted this condition will be corrected and that the records of hearing officers will hereafter contain all of the testimony and evidence upon which they have relied in making their decisions. It would not be possible to justify the retention of the finality clause in Government contracts unless the hearing procedures were conducted in such a way as to require each party to present openly its side of the controversy and afford an opportunity of rebuttal. . . ."

Question of Law

"In recent years there has been an increased tendency on the part of Government specifications writers to include in specifications additional clauses which have the effect of giving Government officials the right to determine finally the legal obligation of the parties under a contract. . . .

"No witness before this committee, Government or otherwise, has offered any justification for the reservation of the right of a Government official to finally declare the law of a contract or to finally interpret the legal effect or meaning of the contract documents. There is no justification for the assumption of such a duty which normally reposes in the judiciary branch of the Government. . . .

"Under section 2 of the bill, the committee intends not only to prohibit the insertion in a Government contract of a provision making final a decision of a contracting officer on a question of law, but also the indirect insertion of such a provision by incorporation by reference. This will prevent the use of what is commonly known as 'the all disputes clause,' whereby finality of decision was given as to questions of law and fact.

"The provisions will also prevent the insertion of such a clause in any drawings, plans, specifications, or any other document which might be incorporated by reference into the contract itself."

Disputes Affected

"At present there are numerous disputed questions arising out of contracts pending before the various departments and agencies charged with the letting of such contracts. There are also a limited number of cases pending before the United States Court of Claims seeking judicial review of decisions that have heretofore been rendered by administrative officers under such disputes. Many of the contracts upon which present disputes are pending were entered into prior to the time that the Wunderlich case was decided and at a time when the persons involved therein understood that judicial review was available to them on a less restricted basis than that of fraud. The committee believes that all of such persons should receive the protection which would be afforded by this proposed legislation, but it does not believe that it would be practicable to reopen cases which have heretofore been decided by the courts.

"While the committee believes that S. 24 as passed by the Senate would adequately cover all unadjudicated cases now on file in the courts as well as those to be filed, the proposed amendment makes this abundantly clear by inserting such language.

"The committee foresees no possibility of the proposed legislation creating any new rights that a contractor may not have had prior to its enactment, with the exception of the standards of review therein prescribed. Under the terms of the standard disputes clause the decision of a contracting officer is final unless the contractor appeals within 30 days. The Supreme Court in *United States v. Holpuch Co.* has held that unless a contractor pursues the administrative remedy of appeal to the head of the department which he is granted by the disputes clause, he loses the right to sue in the Court of Claims. Government contractors who have not appealed their decisions to the head of the department within 30 days will not be permitted to do so.

"The statute of limitations regarding claims against the United States is jurisdictional and prevents the consideration of a claim which is more than 6 years old. Claims less than 6 years old, and not heretofore filed in the courts may, if filed, receive the protection of the proposed legislation. In this way the basic requirement of the contract that an appeal be noted to the head of the department within 30 days, as well as the protection which the Government receives under the statute of limitations applicable to these matters, have been retained."

Purpose of Legislation

Purpose of the proposed legislation, now law, was described by the House Judiciary Committee as "to overcome the effect of the Supreme Court decision in the case of *United States v. Wunderlich* . . . under which the decisions of Government officers rendered pursuant to the standards disputes clauses in Government contracts are held to be final absent fraud on the part of such Government officers.

"The Supreme Court there defined fraud to mean 'conscious wrong-doing, an intention to cheat or be dishonest.' The proposed legislation also prescribes fair and uniform standards for the judicial review of such administrative decisions in the light of the reasonable requirements of the various Government departments and agencies, of the General Accounting Office and of Government contractors. It will also prohibit the insertion in Government contracts hereafter executed of provisions making the decisions of Government officers final on questions of law arising under such contracts."

LEGISLATION

Reactivation of Airport Program up in Congress

Congress last month began considering reactivation of the federal-aid airport program, for which no funds were provided for the current fiscal year, ending June 30. The Department of Commerce, responsible for administration of the Federal Airport Act of 1946 providing for grants-in-aid to state and local governments for the improvement of airports, is reported to be requesting $33 million for this purpose in the next fiscal year.

Hearings were held last month on two aspects of the federal-aid airport program by two committees of the Senate. A subcommittee of the Appropriations Committee heard testimony on the question of the appropriation. The Interstate and Foreign Commerce Committee heard testimony on a bill (S. 3410) drafted by the Department of Commerce to amend the Federal Airport Act in three principal respects: (1) To exclude airport terminal buildings from eligibility for federal aid; (2) to increase from 25 per cent to 50 per cent the amount of available funds which can be distributed on a discretionary basis without regard to a fixed apportionment formula, and (3) to make more specific the Commerce Department's authority to approve only those airport projects which "have sufficient national importance to warrant financial participation by the United States."

A.G.C. Testifies

At hearings on the appropriation, statements were made by Charles H. Gartrell, president of the National Association of State Aviation Officials, and Max C. Harrison, president, Harrison Construction Company, Pittsburgh, as the representative of The Associated General Contractors of America.

Mr. Gartrell submitted the N.A.S.A.O.'s recommendation for an appropriation of $50 million for the coming fiscal year. He said many state and local governments and airport authorities had made substantial financial commitments for airport development on the assumption that federal assistance would be available, "when the program was suddenly and arbitrarily suspended over a year ago." Sponsors of many projects are now "placed in a most difficult and embarrassing position" because of the

failure of the federal government to "carry out the partnership undertaking in which the states and municipalities, in good faith, entered into with the federal government," he added.

Mr. Gartrell also opposed limiting aid to certain classes of airports.

Mr. Harrison told the subcommittee the A.G.C. took the position that it is the function of Congress to determine the amounts of federal aid for airport construction on the basis of recommendations made by appropriate federal and state aviation officials. He said the N.A.S.A.O., as the established organization of state aviation officials, is well qualified to make such recommendations, and the A.G.C. supports its recommendations as fairly stating minimum needs.

Mr. Harrison emphasized that maximum economy in construction costs on any long-range program "is best obtained by having a continuing program," and therefore the A.G.C. recommends federal-aid authorizations for periods of two years or more. He assured the subcommittee that the construction industry has ample capacity to execute an expanded program.

More Flexibility Sought

At hearings on S. 3410, Acting Undersecretary of Commerce Charles L. Dearing presented the department's arguments for its proposed amendments to the Federal Airport Act. He said a department study had concluded that continued federal aid was justified in the present stage of aviation development.

He said exclusion of terminal buildings from eligibility would enable the government to concentrate upon types of development which are "of more direct importance from a federal standpoint," such as construction of runways, installation of lighting systems, and removal of airport hazards. State or local governments should arrange financing for terminal buildings, which are revenue-producing facilities, he contended. Increasing discretionary federal-aid funds from 25 per cent to 50 per cent of the amount available, Mr. Dearing said, would permit more flexibility in concentrating upon airports of national significance.

The proposed amendments were opposed by the N.A.S.A.O. and the American Municipal Association, and supported by representatives of the Air Transport Association of America and the Airport Operators Council.

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Milton Rosen is a former president of the American Public Works Association.

St. Paul, Minn., Always Favored Contract Method Over Day Labor

- Keeping City Out of Business Benefits the Public
- 'Reaps Reward in Efficiency, Economy and Quality'

By Milton Rosen

Commissioner of Finance, City of Saint Paul

» HAVING served as Commissioner of Public Works for the City of St. Paul for approximately 20 years, and having been president of the Minnesota Good Roads Association from 1947 to 1952, I feel that I have the knowledge to discuss highway construction by contract versus construction by day labor, or "force account," as we call day labor in our city.

First of all, one must consider that when a contractor bids on a particular job his bid is based on the plans and specifications given to him by the community, county or state desiring a construction contract. His work must meet the specifications and his entire operation is subjected to minute inspection by representatives of the governmental agency supplying the moneys for the work to be done. His reputation and surety bond are a guarantee that the work shall be done according to specifications.

The contractor in bidding for the job must take into consideration general office expense, insurance, depreciation, wear and tear on his equipment, and his investment in skilled top men; and if his work is to be sublet to another contractor the prime contractor must of necessity be responsible for that contract.

Day Labor Can Be Slipshod

On day labor or force account work, the subdivision of government responsible for this type of work has no insurance to contend with, they pay no federal, state and local taxes, they can use equipment that may or may not be proper for the job they are doing, there is no responsibility attached to the quality of work that may be put out, and there is no meticulous investigation of the job by trained experts.

To my knowlege, never once in our city have there been borings or tests made of materials used on a job done by day labor. I am not stating that all force account or day labor jobs are dishonest, but the element of chance is there, more so than if the job is done by a bona fide contractor. The public should be cognizant of the fact that when a contract is awarded for a paving or construction job of any kind, the city, county or state is assured of a completion date and knows beforehand exactly what the cost of the job will be as well as the quality of work they will receive.

No Accurate Cost Records

I know that several communities throughout the nation are putting in their own "batching" plants. The cost of maintenance is seldom, if ever, accounted for to the public, and I am quite sure—and I know whereof I speak—when I say that there is not an accurate cost accounting kept of the maintenance of an asphalt plant or a concrete mixing plant when it is owned by a municipality, county or state.

The City of St. Paul has always favored contract paving and construction work, and if the contractor's bid is within 10 per cent of the engineer's estimated cost we feel it is better to let the contractor do the work than to have the city organize crews for this important operation.

Compete With Taxpayers

I am thoroughly convinced that our various governmental subdivisions should not be in competition with taxpaying contractors who are qualified to do construction work. In fact, I am thoroughly convinced that no subdivision of our government should at any time be in competition with bona fide and qualified business institutions or contractors of any type. In supporting work by contract, the element of paying political debts with jobs is eliminated.

While I am thoroughly convinced that in most engineering departments, whether they be city, county or state, they have qualified plans and specifications and they have qualified men to inspect the work, yet I do not believe the department of public works in any governmental agency can compete with the experienced construction organization and the modern high quality equipment of contractors if every record of cost is kept for public inspection.

Many millions of dollars have been spent under my jurisdiction as Commissioner of Public Works for road construction, sewer construction, construction of new bridges, etc., and these jobs can all be inspected and they will be found to be of excellent workmanship.

I would not be so thoroughly opposed to day labor or force account work if the subdivision of government doing this type of work would make its records available to the public. Then you and I could tell what amounts of money are spent for this type of work, and a competitive contractor could tell whether it would be advisable to do work by force account day labor, or by contract.

Contractor Is Efficient

Check the crew on a contractor's job, and check the crew on a day labor job, and you will get an insight into what efficiency means. The contractor, you can bet, is going to make sure that he gets a full day's work out of his employees. Having been in municipal government for almost a quarter of a century, I know how tough it is to get rid of a civil service employee who feels that he doesn't have to work if he feels disposed to take it easy.

It is rather difficult to argue the relative merits of contract work ver-

sus day labor. There are some political heads of various types of government who favor day labor or force account work, and they will try to convince the average layman that his work is more perfected because they have the same crew year in and year out. This is a subterfuge. There is no question in my mind but that the larger the working crew a politician has at his command at election time the more useful they will be to him and his campaign committee. But the competition that is created by contractors is so keen that I am positive a public official will receive better work, more accurate cost accounting, and in the long run a much better job.

Know What You're Buying

A public official responsible for construction work will favor the contract method in almost all instances if he cares anything at all about improving his work program. In giving the contract to a bona fide contractor, you will have a definite understanding as to the amount of materials to be used, the number of men to be employed on the job, and you have a definite completion date, and you also have a determining factor in the quality of work you are to receive. This is assured in drawing up your plans and specifications. Where your department is on a rigid budget your estimating is closer than it would be otherwise and you get the desired results in budgeting benefits.

The most important point involved is that when the bids are received the department heads will know how much they can accomplish and they will know definitely how much the work is going to cost. When there is an assessment involved they have a pretty good idea as to what it is going to cost the property owners as well as the governmental agency involved before the job has started, and seldom is there an increase in the estimated assessment. This cannot be accomplished by day labor or force account.

Maintenance Operations

Now as to maintenance operations, where there is a large area such as on state trunk highways, in the interest of efficiency, economy and a positive cost accounting this work ought to be given to contractors to maintain. In a community such as ours in St. Paul where the budget for maintenance is very small, it is advisable to have a maintenance crew, but where the program is a large one the governmental agency will benefit when it calls upon general contractors to take on this type of maintenance program. Where a contractor puts his vast amount of experience and practical knowledge into the work, the governmental agency reaps a reward in efficiency, economy and quality of workmanship.

I believe that the farther away a governmental agency keeps from business activity, the better it is for you and me as taxpayers and government officials. The element of chance and poor construction is practically nil when qualified men and organizations are permitted to do the work by contract.

TVA Example Cited

The most shining example of spending money without accounting for the expenditures is the operation of the Tennessee Valley Authority, which presents its requests for construction projects and submits estimates of their cost without receiving competitive bids, and Congress in allocating the funds has no check on these estimates. I agree with the business man, who must watch every penny he spends, that the estimates of the cost of any governmental agency project should be open to comparison to determine the reliability of these estimates. I also agree with my good friend, Mr. Street, the past-president of the Associated General Contractors of America, when he says: "It is a very simple matter to reconcile the ultimate cost with the original estimate when the designer, the estimator, the contractor, the inspector and the accountant are one and the same. Contractors, on the other hand, are obliged to follow specifications rigidly and their work is inspected by the owners' representatives. Their work performed is carefully checked before progress payments are made. Contractors' cost figures must be definite, positive and meaningful. T.V.A. operates under no such conditions but has continued its policy of force account construction without such independent check upon its estimates and costs."

Public Has Right to Know

If this type of governmental operation is conducive to good, constructive, honest workmanship and honest accounting, then I think all the facts, all the figures, all the information should be made available to the public and not kept hidden in vaults away from the public who might be interested in knowing what it costs to do business on the day labor or force account basis.

Now, I'll debate with any public official the relative merits of work by contract versus work by day labor, and I wish that more people interested in economy in municipal, county and state government would "perk up" and check for themselves the cost of doing work in a municipality, county or state by day labor. It might surprise some people interested in efficiency and economy in government.

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Speeding 4,000,000 yards of excavation on the Ohio Turnpike

A fleet of Caterpillar-built machines and engines is moving the total excavation on contract sections C-56, 57, 58, 59 of the nation's newest turnpike project. One overpass doesn't make a turnpike, but it helps explain how V. N. Holderman & Sons, Inc., is doing this big job.

NEAR the western end of the 241-mile Ohio Turnpike, big yellow machines and Caterpillar* Engines are rushing to completion an important 14-mile section. The contract—approximately $10,250,000—was won by V. N. Holderman & Sons, Inc., Columbus.

Among other things, it calls for moving 4,000,000 yards, nearly all borrow. Total borrow for the entire Turnpike is 30,500,000 yards, so Holderman is moving more than 10 per cent of the total.

To do this big job quickly, the contractor has called on a fleet of Caterpillar equipment—four DW20s, four DW-21s, 18 D8s, three D7s, four No. 12 Motor Graders, three No. 80 Scrapers, and three Cat* Diesel Engines to power a Sierra loader, a Lima crane and a Bucyrus-Erie dragline.

One job—an overpass—in section C-56 illustrates how Holderman is using Caterpillar teamwork to do the job. Near the overpass site a Bucyrus-Erie dragline with a 2¼-yard bucket powered by a seven-year-old D17000 Diesel, is changing the channel of a stream to run into a box culvert. Extent of repairs on this hard-working engine: one fuel pump. Not far away a D318 is powering a Lima crane unloading steel for the bridge.

THIS RECORD OF DW20s IS SPEEDING THE DAY		WHEN THE TURNPIKE WILL SAVE MOTORISTS
Workdays	6 per week	1 hr. 27 min. between Cleveland-Toledo
Hours per day	9 hours	1 hr. 43 min. between Cleveland-Pittsburgh
Round trip	1.8 miles	1 hr. 27 min. between Cleveland-Detroit
Load per trip	20 yards	2 hr. 4 min. between Youngstown-Toledo
Loading time	35 seconds	1 hr. 3 min. between Toledo-Akron
Time per round trip	6½ minutes	3 hr. 23 min. between Pennsylvania-Indiana borders

A Sierra loader, powered by a D318 Engine and pulled by a D8, is loading three No. 20 Scrapers pulled by DW20s, with the round-trip record above. The units are unloading at the overpass where a No. 12 Motor Grader is grading, a D8 equipped with a No. 8A Bulldozer is leveling, and a D7 is pulling two sheepsfoot tampers.

And in the borrow pit a D8 Tractor

LOADING TIME 35 SECONDS—and it's an all-Caterpillar performance! Loading a DW20 Scraper is a Sierra loader pulled by a D8 and powered by a D818 Engine.

CHANGING CHANNEL to run into a box culvert at the overpass is this 2¼-yard dragline powered by a D17000 Engine.

AS A FAST-MOVING DW20 spreads, a variety of Caterpillar equipment moves into place ready to go into action.

A VERSATILE NO. 12 MOTOR GRADER quickly begins to grade the approach to the Turnpike overpass.

is push-loading three DW21s for spreading on the Turnpike near the bridge.

This fast, efficient, smooth-running Caterpillar combination is one reason that the Turnpike expects to be open to traffic by October 1, 1955. Holderman & Sons, like so many contractors, knows the many advantages of standardizing on Caterpillar equipment for profit-building performance.

Many engine parts are interchangeable, cutting down tremendously on the parts inventory. Operators and mechanics learn one make of machinery, and can get the most work out of it. And, most important, you get quick, efficient one-stop service from one dealer.

So follow the lead of road-building leaders. Be wise and standardize on Caterpillar equipment.

AND A D8 WITH NO. 8A 'DOZER is on the job leveling as quickly as the borrow is spread by the DW20s.

TWO-SECTION SHEEPSFOOT TAMPER follows up the leveling operation. Pulling is a D7 with No. 7A 'Dozer.

CATERPILLAR TRACTOR CO., PEORIA, ILLINOIS, U. S. A.

*Both Cat and Caterpillar are registered trademarks—®

President Stresses Highway Needs in Signing Biggest Federal-Aid Bill

» IN RECOGNITION of the significance of the largest federal highway authorizations ever enacted, special ceremonies accompanied President Eisenhower's signing of the Federal-Aid Highway Act of 1954 (Public Law 350, 83rd Congress) on May 6. A group of senators and representatives who were influential in passing the legislation attended the signing, and statements praising the measure were made by the President and Secretary of Commerce Sinclair Weeks. (Details of law in May CONSTRUCTOR.)

"Now that we've got a highway bill through," the President said with a grin, "if you fellows will get that other bill through for me today—the St. Lawrence Seaway bill—then we will be improving our transportation system." (It was passed the next day.)

In his formal statement the President said:

"I am very gratified that this important measure has now become law. I am especially glad that the scope and pace of our efforts to make up our highway deficiencies will be considerably increased.

"In recent years the nation has accumulated tremendous highway needs which are becoming increasingly acute. Our highways badly need modernization and expansion to accommodate today's vastly increased motor traffic. Large-scale improvement is needed simply to remedy deficiencies not met in the past.

"This legislation is one effective forward step in meeting these accumulated needs. It keeps in the states, as I deeply believe it should, primary responsibility for highway construction. At the same time, it recognizes the responsible relationship of the federal government to the development of a sound, nationwide highway system.

"The almost two billion dollars authorized by the new law is the largest two-year sum ever provided for federal highway programs. Nevertheless, the needs are so great that continued efforts to modernize and improve our obsolescent highway system are mandatory.

"The public will welcome, I am sure, the fact that funds equivalent to revenue from federal gasoline taxes will now be used entirely for the improvement of the nation's highways.

"I am especially interested in the studies to be made by the Secretary of Commerce under the new law, and in the related studies under way in the Commission on Intergovernmental Relations. Continuance of work on the Inter-American Highway and Rama Road is also important."

Wide World

Surrounding President Eisenhower as he signed the new Federal-Aid Highway Act on May 6 were senators and representatives who were influential in its passage. Left to right, they are: Senate Majority Leader William F. Knowland (R., Calif.); Representative George A. Dondero (R., Mich.), chairman, House Public Works Committee; Representative Clifford Davis (D., Tenn.), member, House Public Works Committee; Senator Francis Case (R., S. D.), member, Senate Public Works Committee and chairman of its Subcommittee on Roads; Representative Homer D. Angell (R., Oreg.), member, House Public Works Committee; Senator Edward Martin (R., Pa.), chairman, Senate Public Works Committee; Representative J. Harry McGregor (R., Ohio), member, House Public Works Committee and chairman of its Subcommittee on Roads, and Representative George H. Fallon (D., Md.), member, House Public Works Committee.

Weeks Cites Benefits

Listing provisions and benefits of the new law, Secretary Weeks said:

"The signing by the President of the new Federal-Aid Highway Act of 1954, authorizing a two-year total of $1,932,000,000, starts the Bureau of Public Roads, Commerce Department, on the largest federal highway program on record.

"The provision of $875 million for apportionment among the states for each of the fiscal years beginning in 1955-56 will make possible the biggest federal highway program in history to improve the national highway system, reduce traffic congestion, strengthen national defense, expand research in road improvements, and increase the comfort, convenience and safety of the users of the nation's 56 million motor vehicles.

"An additional $81 million a year is authorized for the improvement of roads in national forests, national parks and other federal areas and $10 million a year for the Inter-American Highway and Rama Road in Nicaragua.

"The increase over the current rate of assistance to states is $300 million per year—or 52 per cent. . . .

"The new legislation will have three highly beneficial effects: First, federal funds, with state matching money, will make possible the improvement and modernization of some 40,000 miles of highway. Traffic will flow with smoothness and safety in many cities and other areas where there is now congestion, delay, and accidents.

"Second, expenditure of the funds will be a definite stimulant to our economy. Some beneficial effects should be almost immediate in business activity and employment.

"Manufacturers of trucks, bulldozers, and other roadbuilding equipment now know that there will be an enlarged market for their product and will prepare for it. Contractors will make preliminary arrangements for the work ahead. Producers of steel, cement, asphalt, and crushed rock for roads and bridges are assured of a large market and will get ready for it. These preparations and later construction will make jobs.

"Third, the Administration's action will encourage the states to enlarge programs independent of federal aid, and will stimulate increased activity by private capital in connection with assured highway improvements."

Five States Win 'Golden Milestone' Awards

• Honored by N.H.U.C. for Reports to Public on Highways

» GOLDEN MILESTONE awards to highway departments of five states —Colorado, Maryland, Massachusetts, Oklahoma and Washington—were announced at the Fifth Highway Transportation Congress held in Washington, D. C., May 4-6 under the sponsorship of the National Highway Users Conference. The awards, the first to be made, are given for highway department program reports that reflect special effort and effectiveness in bringing highway information to the public.

Certificates of award were presented by Albert Bradley, chairman of the National Highway Users Conference and executive vice president of General Motors Corporation. Presentation of miniatures of the Golden Milestone of ancient Rome, which stood in the Roman Forum and marked the center of the empire, will take place at separate ceremonies in the five states under the auspices of State Highway Users Conferences.

The certificates were accepted on behalf of their highway departments by Mark U. Watrous, chief highway engineer, Colorado; John A. Volpe, commissioner, Department of Public Works, Massachusetts; Russell H. McCain, chairman, State Roads Commission, Maryland; Leroy A. Powers, general counsel, State Highway Department, Oklahoma, and Maurice Van Mechelen, safety director, State Highway Department, Washington.

Aid Public Understanding

The five states were cited as having made "a significant contribution to public understanding and to the highway development which such understanding engenders." Each received a specific citation, as follows:

• Colorado, for its Sufficiency Rating Study Report of 1953, which "makes a logical and understandable presentation of highway needs, with a scheduling of projects on a priority basis," and "summarizes what is being done to meet highway needs."

• Maryland, for its program reports of 1952, which "make a clear presentation of a comprehensive 12-year highway program, showing a scheduling of projects on a priority basis," and "have created wide public understanding which has resulted in legislative action, designed fully to meet Maryland's state highway system needs."

• Massachusetts, for its three-year program report of 1954, which "gives a clear picture of progress since an accelerated program was begun in 1949," and "presents specifically, by text and maps, what is contemplated for the period 1955-1958 under this program."

• Oklahoma, for its reports of 1953, which "set forth, county by county, with map and tabular presentation, work completed during the past year and projects under way and programmed," and "point directly to the location and urgency of highway needs as established by road ratings."

• Washington, for its highway development report of 1953, which "makes an effective graphical presentation showing the location of highway deficiencies," and "clearly relates the highway deficiencies to the work done in the preceding year, the projects under way and work programmed."

Panels Discuss Problems

A panel discussion on "How Do We 'Blueprint' for Adequate Roads?" produced practical illustrations of what four states are doing to modernize their highway systems. The moderator was William S. Canning, engineering director of the Keystone Automobile Club, and participants were Sam R. Maxey, executive secretary, Maricopa County Farm Bureau, Arizona; W. G. Pruett, director, Alabama State Highway Department; Russell S. Munro, deputy director, California Department of Public Works, and Russell H. McCain, chairman, Maryland State Roads Commission.

Another panel on "The City Traffic Muddle—What Exit?" was moderated by William S. Lampe, editor in charge, Hearst Better Roads Campaign, and participants were Henry A. Barnes, director of traffic, Baltimore; Glenn C. Richards, director, Public Works Department, Detroit; D. C. Greer, Texas state highway engineer, and Mayor David Lawrence of Pittsburgh. The discussion emphasized construction of controlled-access expressways and off-street parking facilities, plus careful planning to insure maximum use of existing streets.

Above—One of biggest "savings" was registered for a grading and tunnel project on the Waldo Freeway north of Golden Gate Bridge, which was awarded for about $1 million less than amount budgeted for the job before bids were taken.

Below—Four projects are outlined here on the Bayshore Freeway, with contracts aggregating nearly $2 million below estimates. *(Division of Highways photos)*

Keen California Bidding 14.5% Below Estimates

Figures compiled by the California State Division of Highways on 14 recent freeway projects in the San Francisco Bay area show total contract allotments for the jobs of $39,068,795, compared with the budgeted amount before bids were taken of $45,691,000, leaving a total of $6,622,205 available for new projects. Contracts for the 14 highly-publicized jobs went to 10 different general contractors, all members of the Northern California Chapter of The Associated General Contractors of America.

The chapter reports that engineers' current estimates are not unrealistic, but that competition is such that 15 to 35 bids have been made per project on state work in recent months. The average bid for California highway construction has been found to be very close to the average of all bids submitted by contractors.

The *San Francisco Chronicle,* publicizing the "bonanza" in savings, stated: "The California motorist is now getting 15 per cent more highway for his gas tax dollar than state experts had expected."

Where Calif. Saved $6.6 Million on 14 Jobs

Project	Contractor	Amount Budgeted Before Bid	Contract Allotment After Bid	Savings Available New Jobs
Bayshore				
16th to 7th, S.F.	Guy F. Atkinson Co.	$ 3,640,000	$ 3,229,087	$ 410,913
Division St. Wye	Chas. L. Harney Co.	1,015,000	828,654	186,346
Mission Approach	Chas. L. Harney Co.	4,586,000	3,648,926	937,074
3rd to Alemany	Chas. L. Harney Co.	3,350,000	2,389,709	960,291
8th to 4th, S.F.	Chas. L. Harney Co.	4,200,000	3,905,273	294,727
Brisbane Fill	Guy F. Atkinson Co.	1,000,000	899,539	100,461
16th to Bransten	Piombo Constr. Co.	4,200,000	4,143,544	56,456
Skyline: Alemany-Edgemar	Edw. Keeble	950,000	639,633	310,367
Golden Gate: Waldo Grade	Guy F. Atkinson Co.	5,510,000	4,459,867	1,050,133
Eastshore				
Maze to Ashby	Peter Kiewit & Sons	2,800,000	2,766,618	33,382
Ashby-El Cerrito	Peter Kiewit & Sons	5,500,000	4,813,534	686,466
Maze Revision	MacDonald, Young & Nelson, Inc., and Morrison-Knudsen Co.	5,600,000	4,495,462	1,104,538
Castro Valley Bypass	Frederickson Bros.	1,540,000	1,270,049	269,951
Orinda Interchange	Frederickson & Watson Co. and M & K Corp.	1,800,000	1,578,900	221,100
Totals		$45,691,000	$39,068,795	$6,622,205

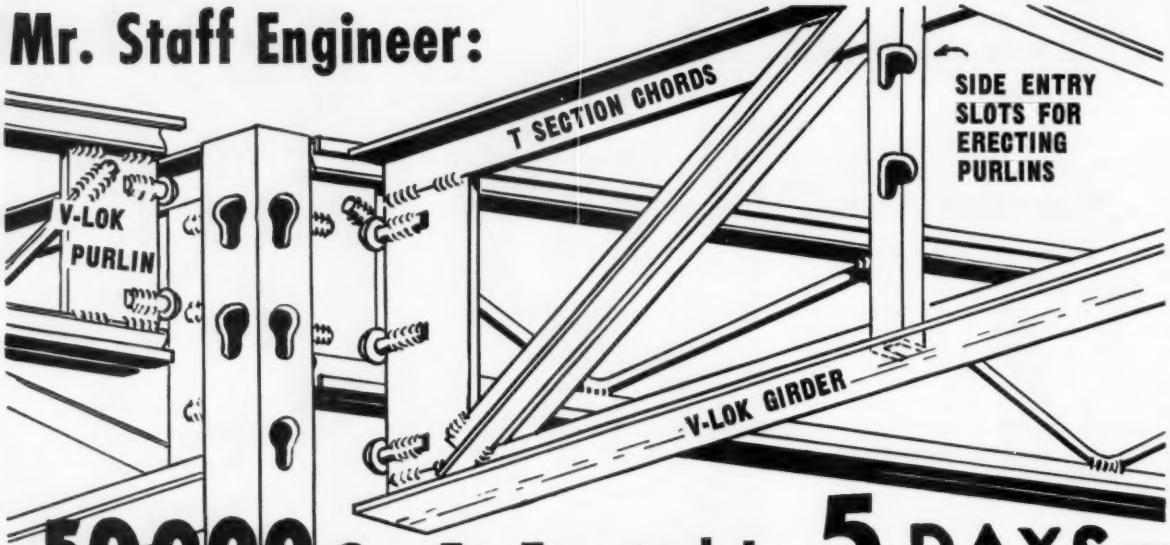
(Figures compiled by a district office of the California State Division of Highways, from *Pacific Road Builder & Engineering Review.*)

Above is shown work under way on the 3rd to Alemany project, expected to be completed in another year for nearly $1 million below amounts budgeted for the job before bids were taken.

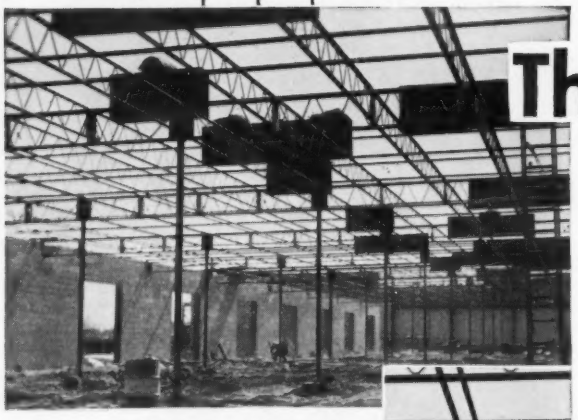
Below, the addition of three ramps to eliminate weaving traffic movements are superimposed on a view of the distribution structure at the East Bay side of the San Francisco-Oakland Bay Bridge. This job, to be completed by November 1955, also will cost in the vicinity of $1 million less than expected.

(Photographs by State Department of Public Works, Division of Highways)

Mr. Staff Engineer:



50,000 Sq. Ft. Erected In 5 DAYS—



That's V-LOK

This Interlocking Steel Framing System is an engineer's answer to many structural design problems.

For the typical one-story building such as Schools, Factories, Warehouses, Supermarkets, V-LOK can be light or heavy as the loads and spans for which it was designed.

Erection is so fast—Any Contractor Who Takes a V-LOK Job Will Make a New Record. He will also ask you when you are going to have another one.

The designing time, fabrication and erection with standardized structural members all contribute to the successful bid you can make. Dimensions and loading information will be appreciated in your inquiry.

A STEEL FRAME COMPLETE IN FIVE DAYS.

50,000 sq. ft. erected and one-third under roof.

LEFT: Wall anchor at expansion joint.

RIGHT shows angle bridging, extended at wall line as outlooker carrying deck.

ORIGINATORS OF THE **OPEN WEB STEEL JOIST**

STANDARDIZED STEEL BUILDING PRODUCTS

V BAR JOISTS • LONGSPANS STEEL TRUSSES • STEEL DECK

MACOMBER INCORPORATED

CANTON 1, OHIO

• ENGINEERING • FABRICATING AND ERECTING •

HHFA Official Suggests Homebuilders Code

• Expects Greater Responsibility on Industry from New Law

» NEW HOUSING legislation, when enacted, probably will place "tremendous responsibilities on the building and lending industries" and will "require the best that a strong and revitalized FHA can offer to complement the efforts of industry," Neal J. Hardy, assistant administrator of the Housing and Home Finance Agency stated last month.

Mr. Hardy, in discussing corrective measures being taken in the "small proportion of the FHA's total operation" involved in the current investigations of the agency, told the Texas Mortgage Bankers Association that homebuilders must establish a clear code of ethics and that "it is the responsibility of the lender and of the government alike to guard against the consequences of irresponsible and unjustified credit."

The homebuilding industry "needs a clear code of ethics that the public can understand and rely on, a mark of professional responsibility by which the many who strive to give the buyer the best buy for his money can be easily distinguished from the few short-cut operators who can give the industry a black eye," he added.

"The homebuilding industry has grown up. Its leaders, I know, and its ablest producers are men who are concerned with serving the market, not milking it. In my opinion, the record of the past several years is ample testimonial to this fact. But the industry needs to enunciate and put that sense of responsibility into full effect. Nobody can instill that confidence in the public but the builders themselves—nobody can do it for them. I know that the leaders of the industry want to bring that about. I am sure they will . . .

"Builders must review their accomplishments critically . . . to establish the prestige and confidence that the homebuying public has a right to expect from a mature industry."

Lenders, he said, "must find ways of providing funds—not reasons for withholding them—for the legitimate needs of homeowners and homebuyers on a sound and secure basis."

Denver's Mile High Center Building

The 23-story Mile High Center now under way in Denver becomes the latest major building to be erected by the increasingly popular use of high-strength bolts, a system authorized in 1951. Bethlehem Steel Co. completed the steelwork in only 82 working days. George A. Fuller Co., A.G.C., New York City, is the general contractor erecting the building.

Reynolds Retires from PBS

W. E. Reynolds, commissioner of the Public Buildings Service, will retire June 30, closing a 21-year career of managing the government's vast holdings in public buildings.

Mr. Reynolds

In 1933, Mr. Reynolds first joined the Treasury, then the agency in charge of federal buildings. He became commissioner of public buildings in the Federal Works Agency in 1939 and continued his duties when FWA's functions were taken over by the GSA in 1949.

Mr. Reynolds' government service began in 1932 when he joined the Reconstruction Finance Corporation to make economic studies on proposed construction projects.

Born in Storm Lake, Ia., 1887, Mr. Reynolds received a B.S. degree from Iowa State College in 1911 and later a civil engineering degree.

He supervised construction of many Washington landmarks including the renovation of the White House.

New Construction Materials and Methods Save Time and Money on Hospital Contract

By Art Wintle

» TIME and cost savings resulted when the Donald M. Drake Company incorporated new ideas in construction of the University of Oregon Teaching Hospital in Portland, Ore.

This $3,085,000 contract for a 14-floor hospital has been highlighted by such applications as Cofar structural steel decking, high tensil bolts, Symons forms, and Smithwick lightweight concrete aggregate materials.

Work on the contract began late in June, 1953, with schedules calling for a 27-month completion date.

From the beginning, the geographic location of the contract site presented obstacles. Here was a dense gully, undeveloped, one side of which was enclosed by a wall of solid basalt rock and dirt which rose 200 feet. The other side was a sloping wooded area. Access roads were required for materials handling at the construction site. Two roads, each about 1500 feet long with two lane width, were graded up the gully base to foundation level and down the cliff side to the first floor level.

Special consideration was needed in forming the base of the gully, in order to maintain adequate land drainage and sewer facilities. Excavation from the cliff side was carried by Cat scrapers to the gully base for fill. As the fill progressed, drainage and sewer facilities were installed.

From this base rose the 14 floor structure, the last four floors emerging above the 200 foot cliff, and the 11th floor paralleling the ground level of the existing Medical School.

Excavation was difficult from the beginning. Seasonal weather carried rains late into the summer season. Some 12,000 cu. yds. of hard basalt rock were anticipated along with 45,000 cu. yds. of dirt, and the formations at the cliff base and side necessitated additional excavation of rock.

The close proximity to nearby hospitals required noise control. Large blasts had to be minimized, and as a result, work of Link Belt and P & H backhoe shovels was unusually heavy, Ingersoll-Rand compressor and drills worked on numerous small blasting set-ups. Cats and Cat scrapers carried materials down a 45% grade to establish a parking lot at the base of the building. Six weeks' work was required for foundation excavations to establish footings.

With the structural steel erected, workmen put the final steel decking in place on upper floors of University of Oregon Teaching Hospital in Portland.

The construction tempo increased as Bethlehem-Pacific steel crews started placement of structural steel. Beams were bolted into place with high tensil strength bolts. This method requires a two man crew in contrast to the customary four man crew, and resulted in a cost savings of 21 cents per bolt for the contractor. The method also helped to accomplish the necessary elimination of noise.

Air powered impact wrenches were utilized to secure exact tension of bolts. The high torque factor in tensioning these bolts, however, required the use of hardened steel washers to be used under head and nut. This is the first time high tensil bolts have been used on the West Coast.

Next on the scene came a steel sheeting known as "Cofar". This was used in 2-ft. strips of 9 ft., 2-in. length. Twenty tons of this material went into each floor for structural flooring. In the use of Cofar sheeting, it was not necessary to strip the working space to provide footing for workers. Also, since this decking is self-supporting, no shoring was required, and lightweight concrete forms were placed for Smithwick lightweight aggregate concrete pouring on all floor areas.

The first floor construction differed slightly from the others in that a full insulation of Owens-Illinois fibreglass was made between Cofar and concrete decking.

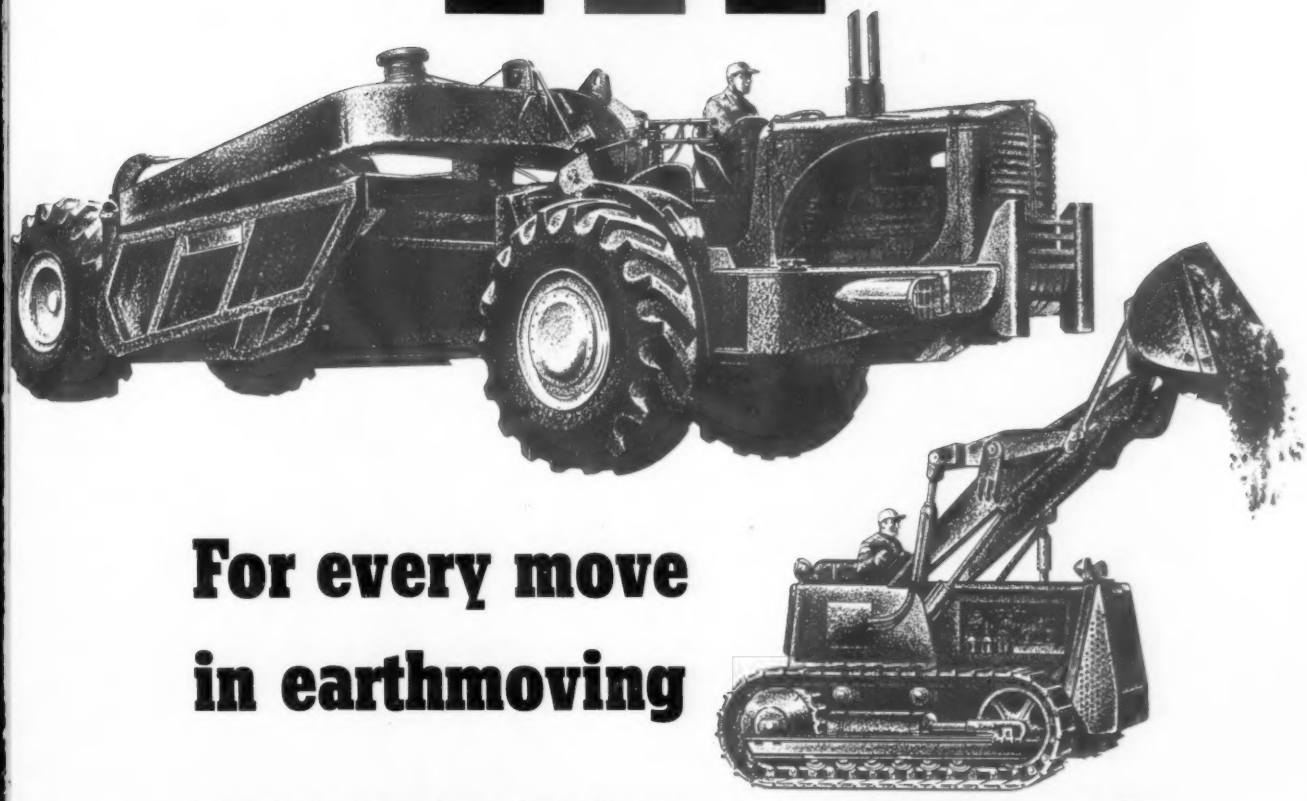
Materials handling featured an American Hoist stiff leg derrick controlled by a Mundy hoist and powered by a LeRoi engine. Exterior elevators were later installed to serve individual floors.

Symons' standard clamps and forms were put to extensive use by the contractor. These forms, an important part of the Drake firm's contracting equipment, have been used as many as six or eight times on previous major construction projects, including schools and bridges.

The exterior of the building is proceeding ahead of schedule, since the firm operated on a full production basis during the past winter season.

Boilers were recently moved into the basement by the Oregon Transfer Company. This was no small job since the heavy ton-units had to be winched up a 30% incline for a distance of 100 feet.

Lawrence, Tucker & Wallman are building architects. Cooper and Rose are the structural engineers.



For every move in earthmoving

INTERNATIONAL Industrial Distributors are your headquarters for the complete INTERNATIONAL line of modern earthmoving equipment, led by the INTERNATIONAL TD-24, world's most powerful crawler, and by the INTERNATIONAL two-wheel, rubber-tired tractors with scrapers and bottom dump wagon.

For proof of INTERNATIONAL performance, call your INTERNATIONAL Industrial Distributor today. Get the low-down on low-cost earthmoving on your own job—with a demonstration whenever you say.

MAKES EVERY LOAD A PAYLOAD

INTERNATIONAL HARVESTER

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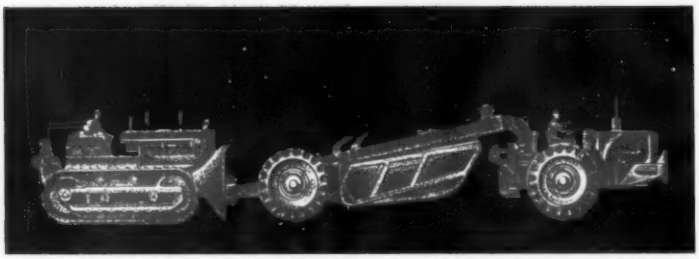
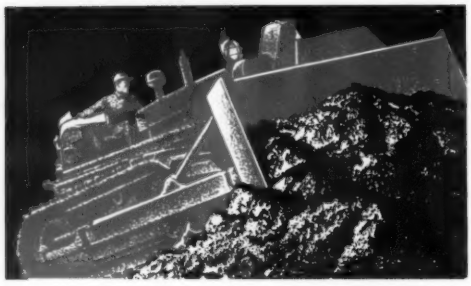
The Champ is



BEST IN THE BORROW PIT. The TD-24 sets record for work accomplished as a push-loader . . . for putting those *heaped* loads in every haul unit . . . for fast maneuvering from scraper to scraper.

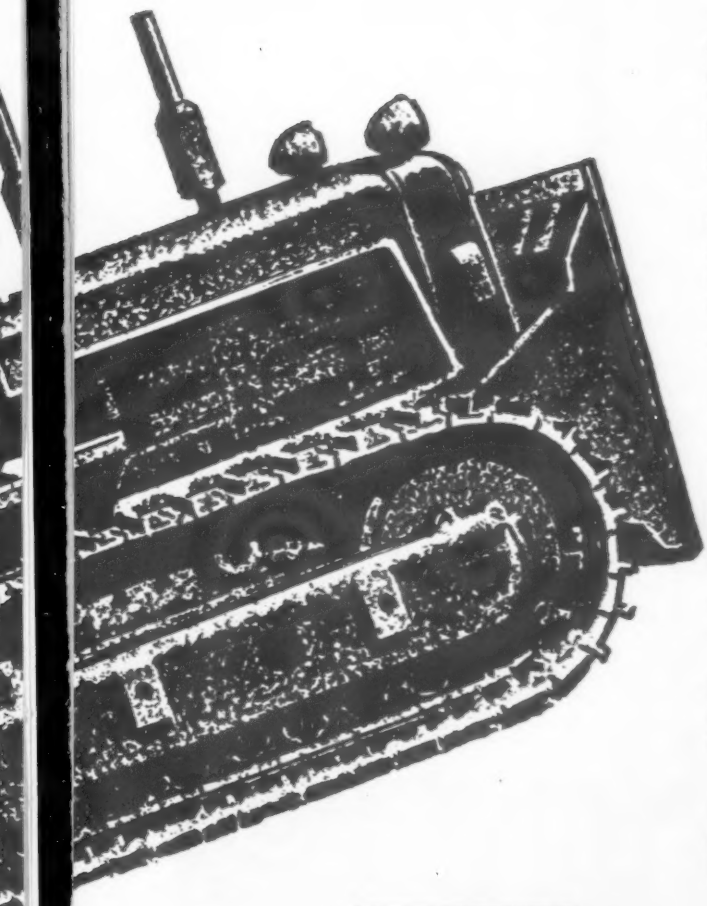


FAST PASS. New TD-24 power—155 drawbar horsepower—pays off on every pass with bigger loads and fast time cycles.

TD-24 with B-250 scraper

Still CHAMP

INTERNATIONAL TD-24 crawler at 155 drawbar horsepower heads a complete equipment line for every move in earthmoving



Now International steps up the power of the most powerful crawler in the world! The TD-24, "The Champ" of crawler power now packs even higher work rating—155 maximum drawbar horsepower.

"The Champ" has been setting performance standards for years with its production-boosting combination of power, speed and stamina. It heads this complete INTERNATIONAL equipment lineup for every move in earthmoving:

- **Seven rugged crawlers, led by the INTERNATIONAL TD-24.**
- **Twenty-two matching hydraulic and cable-controlled bulldozers and BULLGRADER® angling dozers.**
- **Four 4-wheel scrapers.**
- **Two high-speed, two-wheel, rubber-tired tractors with scrapers (13 and 18-yard heaped capacity).**
- **A high-speed, two-wheel, rubber-tired tractor with bottom dump wagon (20-yard heaped capacity).**
- **Five front-end loaders, for the TD-6 through the TD-18A—tops for speedy break-out and loading of all types of materials.**

On tracks—on rubber—INTERNATIONAL power and equipment make the hardest-working work teams in the world.

Call your INTERNATIONAL Industrial Distributor for full details on the *complete* line of INTERNATIONAL earthmoving equipment . . . and for on-*your*-job demonstrations.

INTERNATIONAL HARVESTER

INTERNATIONAL

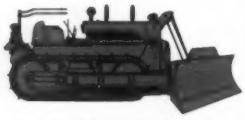
MAKES EVERY LOAD A PAYLOAD

Now All in One Family

the hardest-working work teams in the world!

TD-24 crawler with matched scrapers

TD-18A crawler with matched scrapers



TD-24 crawler with BULLGRADER

TD-14A crawler with cable BULLGRADER

TD-9 crawler with hydraulic bulldozer

TD-9 crawler with front-end loader

TD-6 crawler with hydraulic bulldozer

TD-18A crawler with sideboom

Model 2T-75 two-wheel, rubber-tired tractor with 18-yard heaped capacity scraper

Model 2T-75 two-wheel, rubber-tired tractor with 20-yard heaped capacity bottom dump wagon

Model 2T-55 two-wheel, rubber-tired tractor with 13-yard heaped capacity scraper

INTERNATIONAL HARVESTER

INTERNATIONAL®

MAKES EVERY LOAD A PAYLOAD

Steel Forms, Pre-Assembly Speeds Dam

• Gates and Spillway Bridge Lifted into Place in Sections

By Ray Bloomberg

» INSTALLATION of a 922-ft.-long spillway bridge atop Chief Joseph Dam on the Columbia River north of Wenatchee, Wash., is being speeded by the pre-assembly of 19 30x49-ft. sections, which are lifted into place by one of two 25-ton cableways.

Weight of the welded sections was kept to somewhat more than 24 tons by the use of light-weight high strength Mayari-R steel in the main girders, fabricated by the Bethlehem Pacific Coast Steel Corp. at Seattle, Wash. Installation was handled by the dam contractors, Chief Joseph Builders, composed of L. E. Dixon Co., Arundel Corp., Hunkin-Conkey Construction Co. and American Pipe & Construction Co., all A.G.C. members.

Wooden forms for the concrete deck of the bridge are placed in each section before the lift, allowing concrete to be placed shortly after the sections reach the top of the dam. Two sections can be placed every 10 days.

Pre-Assembly Safer, Simpler

The dam's 19 tainter gates also are assembled on the ground and lifted into place in two sections by the cableways. The 29-ton, 40x49-ft. frame is in one section and the 33-ton skin of 40x50-in. plates is the other.

Pre-assembly of the gates and bridge sections at the river-side is much safer than if assembly were carried out in place on the dam, which has a mean height of 220 ft. at the top.

The gate-assembly operation required only a jig for the framework and an A-frame to lift the skin, instead of the elaborate staging which would have been required on the dam.

Construction of the main dam is expected to be completed by August, 1955, with the first three 64,000-kw generators in the powerhouse to be in operation the following month.

The powerhouse is being built under a separate $40,000,000 contract by Columbia River Constructors, a joint venture of Morrison-Knudsen Co., Peter Kiewit Sons' Co., General Construction Co., Henry J. Kaiser Co., Macco Corp., Walsh Construction Co., B. Perini & Sons, Puget Sound Bridge & Dredging Co. and MacDonald, Young & Nelson, all A.G.C. members. Its construction is being expedited by the use of steel forms in every case where four or more duplicate operations are involved, which is 80 per cent of the time.

The four-section steel form for the 20 curving 30x50-ft. draft tubes is the first of its kind. Contractors previously felt that wood was necessary for the painstaking fabrication of the flaring tubes that will carry the spent waters from the powerhouse turbines back into the river.

Form Used 27 Times

Greatest number of uses was obtained from a 25-ton, arch-shaped device around which openings were made in the face of the intake structure for each penstock. Twenty-seven such "transitions" are being built by the contractors around a single two-section form, formed after each use by a rail-mounted 1,000,000-lb. Bucyrus-Erie 450 Special Monighan crane, assisted by a Manitowac 4500 Speed crawler crane with 140-ft. boom or a Washington Iron Works' revolving crane.

The $650,000 Monighan, with 205-ft. boom and a capacity of 60,000 pounds within a 180-ft. radius, is operated along four rails the entire

General view of dam shows first sections of bridge being installed (right center) as water pours through temporary sluices below, which will be closed by April 1955. Photo shows progress as of April 1.

length of the 2,040-ft. intake structure. It does all the crane work for the intake structure, dividing its time about 20 per cent on yard work and 80 per cent on concrete placement. Three 25-ton General Electric locomotives are used to haul concrete in 4-yd. Gar-Bro placing buckets from the Johnson automatic-batch concrete plant to the intake structure and powerhouse.

This fall, the Monighan will be moved to the river-side to remove the cofferdam protection for the powerhouse and dredge the powerhouse tailrace channel, a total of 700,000 cu. yds. Large rocks in the riverbed are expected to tax the capacity even of the Monighan, which can reach out a flat 204 ft. and pick up loads as heavy as 22 tons.

Before fall, the Monighan will have placed 450,000 cu. yds. of concrete in the intake structure, averaging 2,000 cu. yds. a shift. The powerhouse and intake structure together require a total of 640,000 cu. yds., with completion of the mass concrete work scheduled for August.

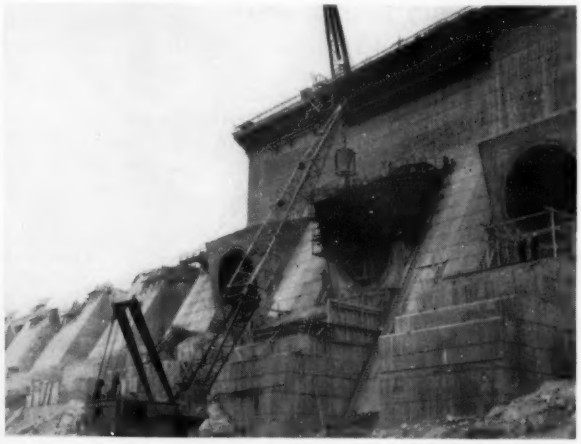
All the 5-ft.-thick walls for the powerhouse, 1,540 ft. long under the present contract, were formed by only six 32x70-ft. steel panels weighing nine tons each. Forms for the exterior walls are faced with fir tongue and groove lumber, to allow water absorption, while the $\frac{3}{16}$-in. steel face of the form for the interior walls is coated with Globe form grease.

Initial cost of the forms exceeded $500,000 but savings in comparison with wood forms are estimated at 30 per cent, largely because of the elimination of the extensive stripping.

The inverted V-shaped form for the upper half of the penstock opening is mounted on a steel "jumbo" which is skidded into position. Hydraulic jacks between the jumbo and the open ends of the "V" are actuated to secure the correct curvature on the face of the form. After the concrete has set, the pressure exerted by the jacks is released, the framework "collapses" and the form is easily withdrawn.

Col. Norman A. Matthias, District Engineer for the Seattle District, U. S. Army Corps of Engineers, is in charge of the full $186,880,000 project, with Charles H. Wagner as resident engineer. W. N. Evans is project manager for Chief Joseph Builders. P. J. Soukup was project manager for Columbia River Constructors until May 5, when he went to another project and was succeeded on the powerhouse contract by George Piedmont.

Steel forms, supplied by Blaw-Knox Co., Pittsburgh, for the draft tubes of the Chief Joseph Dam have proved so successful that similar ones have been ordered for The Dalles Dam on the Oregon-Washington border.



Picture at left shows crane placing concrete for intake structure of dam. At right, concrete is poured in steel form for a transition in the intake structure. Note steel form above is still in place for the overhang.

Bottom throat section of steel draft tube is shown under construction (left), with steel draft tube in place at right.

Building of St. Lawrence Seaway by U.S. and Canada Wins Approval

• Separate Power Development to Accompany Project

» THE ST. LAWRENCE Seaway —a dream for 50 years and a center of political controversy for decades— was assured of realization last month when Congress passed, and President Eisenhower signed, a bill providing for United States participation with Canada in construction of a 27-foot channel along the International Rapids section of the river to open the Great Lakes to Atlantic shipping.

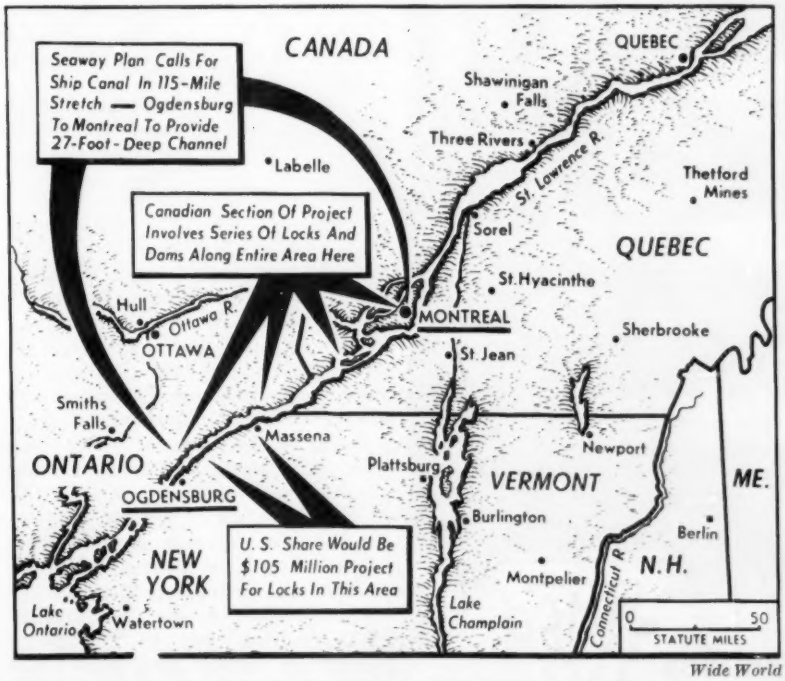
Recommended by every President since Warren G. Harding, the St. Lawrence project repeatedly failed to win approval of either house of Congress until this year. The Senate voted for it, 51 to 33, on Jan. 20. The House, by a vote of 241 to 158, passed the bill May 6 with minor amendments, in which the Senate concurred the following day, and the long fight over the seaway was ended. The President, who had placed the measure high on his list of "must" legislation for this session, signed it on May 13 at a ceremony attended by Ambassador A. D. P. Heeney of Canada and 43 members of Congress. It became Public Law 358 of the 83rd Congress.

The act sets up the St. Lawrence Seaway Development Corporation to represent the United States in the project and authorizes it to issue $105 million in bonds to cover this country's share of the seaway's cost. The bonds will be sold to the Treasury and liquidated by toll charges over a 50-year period. The Canadian government, represented in the joint venture by the St. Lawrence Seaway Authority of Canada, will spend about $200 million on its share of the work.

The U. S. Part of the Job

Most of the work to be done by the United States will be along the 46-mile stretch of the St. Lawrence at the International Rapids, in the construction of two lateral canals, one eight miles and the other three miles long, and three locks, each 800 feet long, 80 feet wide, and 30 feet over the sills. In addition, the United States will dredge channels in the Thousand Islands area to a depth of 27 feet.

In its report on the bill, the Senate



Wide World

Map shows area involved in long-disputed St. Lawrence Seaway project, now approved in legislation passed by Congress and signed by President.

Foreign Relations Committee said that in all probability the St. Lawrence Seaway Development Corporation would designate the Army Corps of Engineers as its agent for the construction work. Customarily the Corps of Engineers executes construction projects through private contractors chosen on the basis of competitive bids.

The Canadian part of the job will consist chiefly of deepening the Welland Canal, which connects Lake Erie and Lake Ontario, dredging, and the construction of canals and locks along the 68-mile stretch from the International Rapids to Montreal.

From seven to 10 years will be required to complete the seaway, it is estimated.

Security Argument Decisive

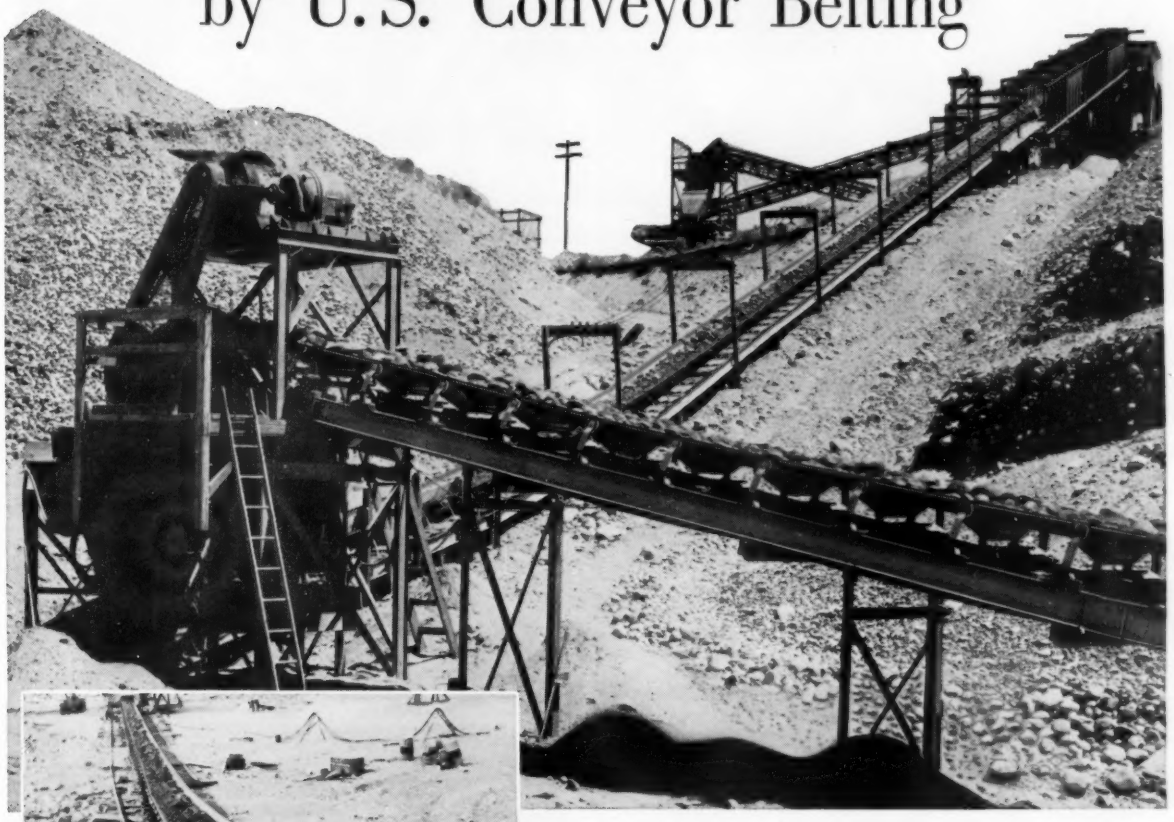
The opposition to the seaway project which blocked it for so long was led by the railroads, Atlantic and Gulf ports, and the coal mining industry. The railroads and the ports fear the seaway will injure their business. The coal mining industry does not want the competition of the hydroelectric power development which will accompany the seaway project.

Chief advocates of the seaway have been the Great Lakes ports, which envision a large expansion when ocean shipping can reach them, and the people living in the St. Lawrence area and in the Midwest, who expect the seaway to stimulate economic expansion.

The decisive argument for the seaway, however, was that of national security. During and since the war years the need of the seaway to strengthen American security has been increasingly urged. The opening up of iron ore mines in Labrador, as the rich Mesabi ore reserves have dwindled, strengthened the security argument. Labrador iron ore can be shipped by sheltered inland waterways when the seaway is completed. Without the seaway, Labrador ore shipments would be exposed, in time of war, to enemy attacks on the open sea. Many members of Congress long opposed to the seaway project came over to it this time for reasons of security.

The power development on the St. Lawrence will accompany the seaway project but be separate from it. The power project, to cost an estimated $600 million, will be constructed jointly by the New York State Power Authority and the Hydroelectric Commission of Ontario.

The roughest haulage for the Chief Joseph Dam is handled by "U.S." Conveyor Belting



Note large and jagged aggregate on "U.S." Belt at Chief Joseph Dam. The belt starts the material from the pit to the rock plant. Upper photo shows another view.

"U.S." Research perfects it.
"U.S." Production builds it.
U.S. Industry depends on it.

The Chief Joseph Dam in the State of Washington will have the world's largest single unit powerhouse under one roof. In generating capacity, it ranks second only to Grand Coulee. Nearly 2 million cubic yards of concrete are going into the Dam's construction.

The raw aggregate ranges from fine sand to extraordinarily heavy boulders as large as 20" in diameter. The rock breaks clean, leaving sharp edges which are good for concrete interlock but very bad for ordinary conveyor belting. To handle this most critical portion of the haulage, United States Rubber Company conveyor belts were selected. Although now in their fourth construction season, the belts are still going strong, and have given *no difficulties or maintenance problems.* This is another example of U.S. Rubber's *Three-Way Engineering* in which "U.S." Belt engineers worked with the designers of the conveyor system and the engineers of the dam—to make sure of obtaining the *right* belt.

The latest pioneering development of "U.S." Belt engineers is the Nyton breaker strip. The nylon used in this breaker adds flexibility and greater resistance to impact.

For complete information, call any of our 26 District Sales Offices, each staffed with engineers, or write to address below.

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Pictures of the month . . . by LeTourneau-Westinghouse

Roadbuilding in 150° heat — Building a 250-mile highway through Arabia from the Port of Djeddah to the Mohammedan holy city of Medina, 3 Rear-Dumps haul crushed basalt and coral sub-base across the desert. Contractor T. W. Ward, Sheffield, England, says natives who had never been on trucks before learned to operate rigs' electric controls in a few hours.

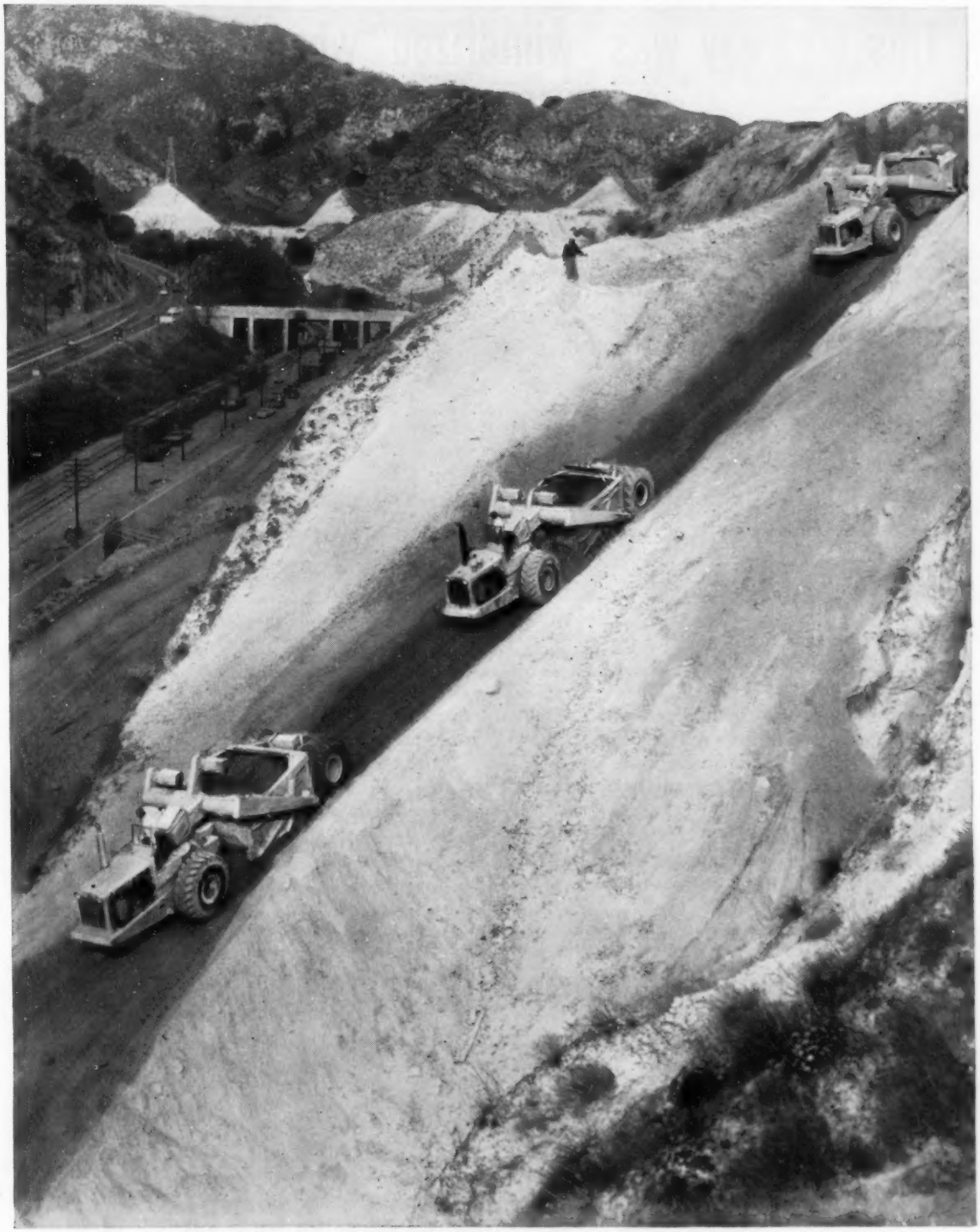
Root for less — To break up old pavement before widening Route 20, Asphalt Roadways Co of Buffalo chose this Rooter — the 5,500th produced by the LeTourneau-Westinghouse factory. Volume production made its price $300 to $500 lower than that of other nationally-marketed Rooters. On the job, it was pulled by a 148 hp crawler-tractor.

Now a field, soon a factory — 675 x 780 ft of fill will convert this hollow into a graded site for an Armed Services barracks fabricating plant near Harrisburg, Pa. Ritter Bros, contractors, use 2 Tournapulls to move dirt. The one above is a 7-yd, 122 hp "D", the other a 16-yd, 186 hp "C". Both have an exclusive differential to prevent cutting in on soft footing.

1 tractor, 4 jobs — Tournatractor is the only tractor made which has the speed to do ALL dozing on a road contract. Producers Mining Co, Harrisburg, Ill. uses their Tournatractor for push-loading (above) . . . keeps 2 C Tournapulls "humping" on hauls as short as 250 ft one-way. It moves around job at 19 mph, clears stumps (below), levels windrows, places culverts, etc. Operator John Longmiere says it is "twice as fast as crawlers."

3 machines faster than 1000 men — It would have taken a thousand men 3 years to complete this 75,000-yd earthfill dam in Mysore, India. Even then, says the Engineer-in-Charge, compaction would have been inadequate. But 2 D Tournapulls moved all dirt, and a tractor-towed LeTourneau-Westinghouse Sheepsfoot Roller handled compaction to finish project in 3 months. On 1000 ft cycles, each 7-yd Tournapull made 28 trips hourly.

. . . with performance reports from around the world

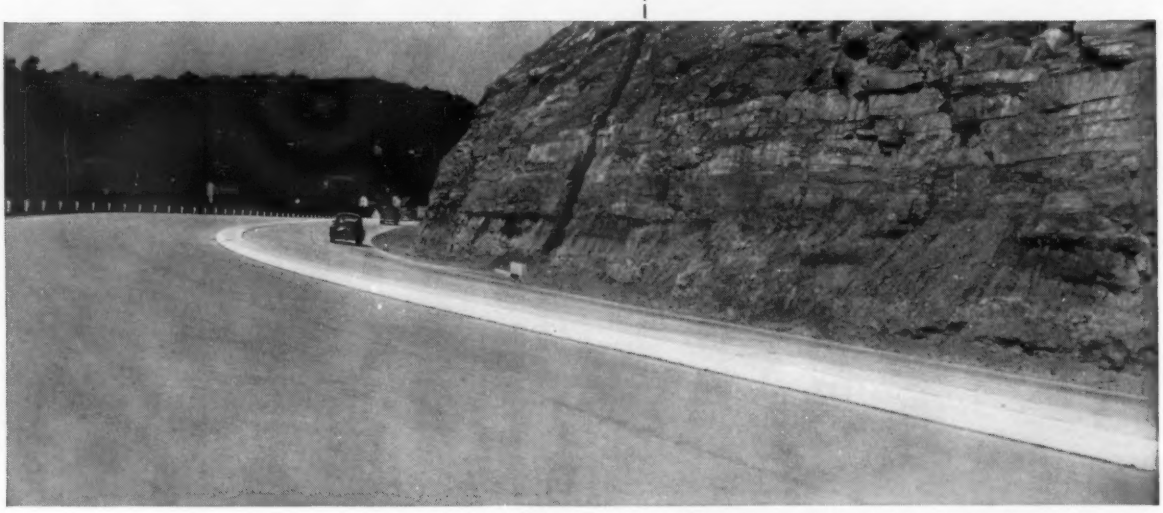


12 mph, safely, down 35% grades

— Thanks to multi-disc air brakes that provide more braking surface on each wheel than most haul units have on *all four*, loaded Tournapulls here travel safely down 35% grades. Power kingpin steer, fast-acting electric controls, good visibility, 6 ft by 2 ft tires, all contributed to their safe, high-speed haul. Shown are 3 of the 8 C

Tournapulls used by J. Tomei & Sons Construction Co, Van Nuys, Calif, to relocate Hwy 99 through Weldon Canyon, near San Fernando. Push-loaded with 13 pay yds of sand, clay and shale, each unit completed a 3000-ft. cycle every 5.5 minutes, despite steep grades. Combined hourly output for 8 "C's" totaled 1,040 pay yds. For more information, write LeTourneau-Westinghouse Co, Peoria, Ill.

This highway was "winterized" when it was built —with DURAPLASTIC



Section of highway in Allegheny County, Pa., near Pittsburgh, built with Duraplastic. White concrete reflecting curbs made with Atlas White Duraplastic. Designed by Pennsylvania State Highway Dept. General contractor: Harrison Construction Company, Pittsburgh; paving sub-contractor: McCrady Construction Company, Pittsburgh; White curb installed by E. Arthur James, Johnstown, Pa.

Come freeze or thaw or de-icing salt, this section of highway near Pittsburgh is ready for the winter's worst, because the concrete was made with Atlas Duraplastic air-entraining portland cement.

Duraplastic makes more durable concrete because it minimizes segregation and bleeding. Thus, concrete is fortified against the effects of freezing-thawing weather and the scaling action of de-icing salts.

Less mixing water is required for a given slump with Duraplastic cement. It makes concrete more workable, more cohesive and more uniform. Naturally, such a mix dumps, spreads and finishes easily. And it allows finishing close to the paver . . . permits earlier protection for curing.

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President's Conference Seeks Reduction in Rate of Accidents

• Eisenhower Asks Halt to Suffering, Material Losses

» PRESIDENT EISENHOWER, opening the President's Conference on Occupational Safety, May 4, in Washington, D. C., called on leaders of industry, labor and private groups to reduce the "appalling bill" the nation pays each year in human suffering and material losses caused by accidents.

"If you can help reduce this appalling bill . . . then you will indeed be doing something that you can definitely and clearly know is in the interest of the United States," the Chief Executive told the more than 2,000 delegates attending the conference.

The President added that one day's loss last year because of industrial accidents equalled enough man-hours to build one million six-room houses.

'Not Legislative Matters'

Under Secretary of Labor Arthur Larson, speaking for Secretary James P. Mitchell, concluded the final session of the conference by comparing accident prevention to labor relations. Safety is not primarily a matter of legislation or regulation, but is rather a question of the attitude of the individual employer and the employees and how successful they are at solving mutual problems, he said.

"It seems to me that there is something of a parallel here between safety and good industrial relations. Now, if Secretary Mitchell were here, and if I understand his philosophy, I think he might say something like this: Good industrial relations and good labor relations are not a matter of legislation and not a matter of regulation primarily. They are a matter of attitude of the individual employer and the employees and the way the two people sitting at the bargaining table feel about each other and how they perform under those circumstances.

"It is what happens right there with the individual employer and the individual employee that in the last analysis ultimately determines whether this sort of thing is going to be successful."

Secretary Mitchell, who also addressed the opening session, praised the manufacturing, mining and transportation industries for improving their 1953 records over the previous year. He added that construction, finance, trade, service and government groups should try and improve their safety records likewise.

Representatives of The Associated General Contractors of America served on three of the conference's committees, which met and developed reports that were made later to the general session on May 6. They were: H. B. Alexander, building contractor from Harrisburg, Pa., chairman of the A.G.C. Accident Prevention Committee, a member of the conference's Education Committee; G. O. Griffin, Dravo Corp., Pittsburgh, a member of the Engineering Committee; and Harry J. Kirk, safety director of the A.G.C., who is on the Committee on Accident Records, Analysis and Use.

The Education Committee report recommended ways of stressing occupational safety education on a broader level to include schools, employers, labor, public agencies and trade associations.

In its report the Engineering Committee restated its belief that the application of engineering principles "has been and still is the foundation of the industrial safety movement." It added:

"Hazards can be controlled through effective safety engineering applied through standards for machinery and material specifications, standards for buildings, including adequate fire protection and standards for materials handling equipment, process revision and many others."

The report also stated that the management of all industries in addition to its legal responsibilities for safe operations and safe working conditions, should realize that effective accident prevention programs are good business in creating improved public relations and in building high employee morale, as well as in reducing costs, waste and human suffering.

'Action Program'

At the final session, the Coordinating Committee presented its "action program" calling for extended job accident reporting; the promotion of safe design in plant construction; the creation of state advisory committees representing management, labor and other groups to supplement existing state safety enforcement activities; and the organization of community safety programs to reach small business.

A workshop on accident records and statistics was moderated by Ewan Clague at the May 5 session of the conference. The panel showed how accident figures of small businesses and state departments of labor can best be collected and used.

Other panels and workshops were held dealing with community action for safety, and the organization of certain utilities groups for the safety of municipal employees.

Later that day the delegates toured the U. S. Naval Gun Factory, the District of Columbia waterworks, the Navy's David Taylor Model Basin, Bolling Air Force Base, and the Bureau of Engraving and Printing.

In closing the President's Conference on Occupational Safety, Mr. Larson said that safety depends on adequate programs of the state labor departments and trade associations and especially on community action. He urged delegates upon returning to their homes to take what individual action they could to improve safety in all three areas.

Constructor Gets Award Again

For the second straight year, THE CONSTRUCTOR in 1953 was presented the National Safety Council's Public Interest Award.

In congratulating THE CONSTRUCTOR on being voted the award, N.S.C. President Ned H. Dearborn said, "We here at the Council have been well aware of all you have been doing for safety, and we are delighted that the judges agreed."

The award, presented on a non-competitive basis, was also given to 26 other specialized magazines and 13 general circulation magazines; 28 daily and eight weekly newspapers; 72 radio and 17 television stations and two radio networks; and 32 advertisers and 14 outdoor advertising companies.

THE CONSTRUCTOR, for the past two years, has been the only construction magazine to receive the award.

Werner Firm Wins Fourth Award Since 1947

Philip Werner, right, receives the 10-year highway safety award from Howard Nichols, chairman of the Nebraska Chapter's accident prevention committee.

» WINNING SAFETY awards are almost routine to the George K. Werner and Son firm of Clay Center, Neb.

Since 1947 the company has walked off with four first-place A.G.C. national awards. This is the second year in a row that the company has won.

At a ceremony in the Nebraska State Capitol, during a recent highway letting, Philip Werner, at right in above picture, received the top 10-year award for the best safety record of highway contractors. Making the presentation was Howard Nichols, chairman of the Nebraska Chapter's accident prevention committee.

Last year the company won the top five-year award (1947-52) for highway contractors, after winning it first in 1950. In 1947 the first-place best record was won.

Mr. Werner's safety program must pay off, because the company, in business 25 years, had its last lost-time accident in 1936, when one man was out briefly for two or three days.

Seattle Contractors Get Safety Plaques

At a recent meeting of the Seattle Chapter, A.G.C., two members received first-place national safety awards for outstanding records last year. On left, James Warrack, J. B. Warrack Co., holds a 5-year award for building contractors; and John Hansen (right), John Sellen Construction Co., displays plaque for the best record among average-size building contractors last year. Also in picture are Col. N. A. Matthias, second from left, Corps of Engineers, and Andrew P. Wick, chairman of the chapter's accident prevention committee.

A.G.C. of Missouri Awards

The Associated General Contractors of Missouri April 21 presented national A.G.C. awards to 23 member-firms that established excellent safety records during 1953.

At ceremonies in the Hotel Governor, Jefferson City, Governor Phil M. Donnelly presented a first place award to the Missouri Petroleum Products Co., Overland, for the best national record of highway contractors with below average man-hours of exposure. The Overland firm also received a certificate of commendation for working all year without a lost-time accident.

Gov. Donnelly, right, presents a bronze plaque to George Fowler, Missouri Petroleum Products Co., winner of a first-place award. Seated is Dale Maxwell, Maxwell Bridge Co., Columbus, chapter vice president.

The Reno Construction Co., Overland Park, got the second place national award for highway contractors working more than average man-hours of exposure.

Others receiving no lost-time awards are F. D. Choate, highway-heavy contractor, Southard Engineering Co., Hedges Construction Co., Lee A. Ball Construction Co., R. S. Houge, highway-heavy contractor, and Shoffner and Sons Construction Co., all of Springfield; Miller Brothers Construction Co., Bennett and Reece Construction Co., Brunn Construction Co., and List and Clark Construction Co., Kansas City; Grantwood Contracting Co., St. Louis; L. W. Riney Construction Co., Hannibal; W. A. Lynn Construction Co., Lincoln, Neb.; Clark Construction Co., St. Joseph; Ray and Son, Inc., Louisiana, Mo.; Brooks Con-

struction Co., Kahoka; R. B. Potashnick, Cape Girardeau; Runquist Co., Savannah, Mo.; Chappell Construction Co., Inc., DeSoto; J. F. Culp Construction Co., Maryville; and P. S. Construction Co., Macon, Mo.

This is the second year in a row that the chapter has presented the awards at official ceremonies. Increased interest in safety is evidenced by the fact that only 11 awards were presented last year. Of those 11, the Houge Co., of Springfield and the Runquist Co., of Savannah won again this year.

Kiewit Wins Safety Awards

Peter Kiewit Sons' Co., A.G.C., Omaha, the prime general contractor at the Atomic Energy Commission's project in Pike County, O., along with 13 project contractors and subcontractors, and the local AEC branch were given safety awards by the Industrial Commission of Ohio, in April.

Presentation of the awards was made by W. D. Schumacher, secretary of the commission, at a banquet honoring the contractors for their "meritorious contribution to the advancement of industrial safety in the field of building construction," made possible through a broad participation by their engineering on the Pike County, Ohio, project.

George Holling, general manager of the Kiewit firm, and J. F. Madura, its chief safety officer, also received the AEC "Award of Merit" for completing 1,092,349 manhours of work without a lost-time accident in a two-month period.

Road Safety Movie Planned

The A.G.C. of Minnesota, and the National Safety Council, Inc., plan to release a movie for general use on highway safety next fall.

The joint venture will be filmed by the Caterpillar Tractor Co., Peoria, Ill.

According to W. G. Hawkins, safety director for Winston Bros. Co., Minneapolis, chairman of the joint committee, the purpose of the film is to show the public how to act when driving on highways under construction. The movie will include the design and marking of highways, dangers to the traveling public, and how the public can help decrease accidents.

The announcement was made at a recent luncheon meeting of the group.

West Pa. Firms with Safe Records Honored

- Presented Local, National Awards at Separate Ceremonies

Chairman Carl J. Jacobsen, third from left, presents an A.G.C. award to Kenneth Gilkey, Burrell Construction and Supply Co., New Kensington, Pa. Looking on, left to right is Thurman C. Tejan, executive secretary of the chapter; and award winners Oren Hopkinson, Holmes Construction Co., Wooster, O.; Joseph Kissane, second from right, M. O'Herron Co., and William Allardice, John F. Casey Co., both of Pittsburgh.

» AT TWO separate ceremonies the Constructors Association of Western Pennsylvania presented the national A.G.C. awards and its own chapter awards to member firms with outstanding safety records during 1953.

At a special meeting, in the William Penn Hotel, Pittsburgh, John E. Gobel, president of the Western Pennsylvania Safety Council and Carl J. Jacobsen, chairman of the chapter's accident prevention committee, presented the national awards to representatives of winning firms (see picture above). Two first-place and 12 no lost-time awards were given.

At the chapter's 20th annual meeting, held earlier in the same hotel, bronze plaques (see below) were awarded by the group's accident prevention committee to two firms that suffered no lost-time accidents. In addition to this, gold wrist watches were presented to B. N. Parker, Dravo Corporation, and Frank A. Bozzo, Peter J. Mascaro Co., superintendents of member firms with the best accident-free records last year.

Superintendent Parker established a record of 115,139 man-hours supervised without a lost-time accident and Superintendent Bozzo supervised 54,956 man-hours free of lost-time accidents.

Dominic Palombo, Jr., left, D. Palombo Sons, Pittsburgh, and Peter Wagner, right, Nick Istock, Inc., Aliquippa, receive chapter awards from Carl J. Jacobsen, chairman of the chapter's accident prevention committee.

7 important Dumptor advantages

Take another look at the latest model Koehring 6-yard Dumptor shown here. It has some important features worth checking. Notice how heavy snubber-spring on steering axle cushions road shocks — yet retains Dumptor's unique advantage of no spring maintenance. There are no leaf springs. Big shock-absorbing drive tires eliminate need for springs on the drive axle.

Alignment of drive wheels with steering wheels adds to efficiency of Dumptor no-turn shuttle hauling — makes a big difference in traction and flotation when Dumptor is shuttling back and forth across loose stockpiles, soft ground.

Another basic Dumptor advantage is instant gravity dump. It's controlled by a simple body latch and new dump lever arrangement. Gravity dumping eliminates slow-acting, troublesome body hoists — never balks, never wears out. Notice, too, the new streamlined, all-steel body. Even with all this heavy-duty strength, Dumptor still has more than 6 h.p. for every ton of loaded weight. It accelerates fast, pulls through soft ground and up grades with less shifting — climbs 24% grades fully loaded.

Let your Koehring Distributor give you all the latest Dumptor® facts. See him soon, or write.

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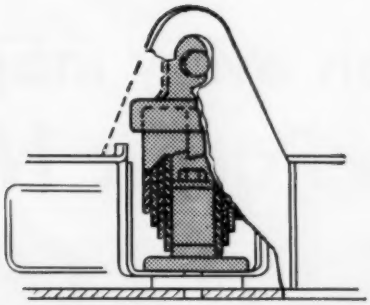
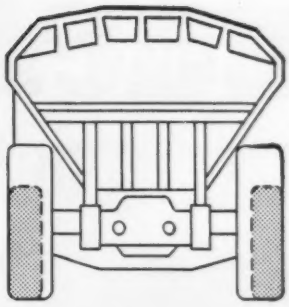


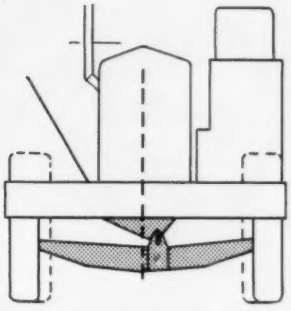
Smooth ride

Heavy, snubber-type spring is mounted between Dumptor main frame and the steering axle. Shock-absorbing action provides plenty of "cushion" — takes all the jolts out of rough, off-road travel. Easy on operator and machine.



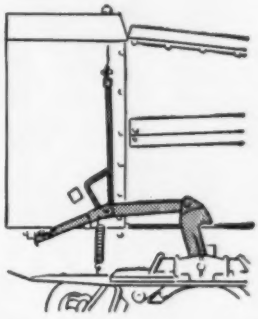
Tires track in direct line

Wider, heavier steering axle puts Dumptor steering wheels in direct line with big drive wheels. Tires track in the same path. There's less rolling resistance, better traction in soft ground, and on rough haul roads.



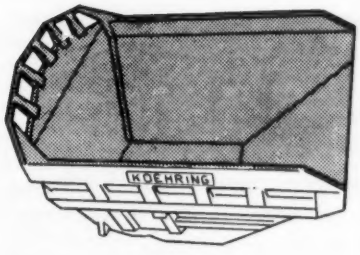
Off-set pivot on axle

Pivot point on steering axle is off-set from center line 3¼" toward operator side of machine. There's no sag, even with unbalanced load. Steering axle oscillates up to 21" — keeps twisting strains out of Dumptor main frame.



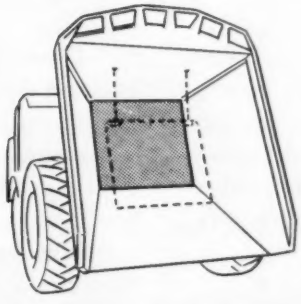
New body-latch, dump lever

Body latch for 1-second gravity dumping is simple, trouble-free. Latch is engaged by a single hook, mounted on the chassis frame. Dump lever is located inside the cab, in an easy-reach position to left of operator.



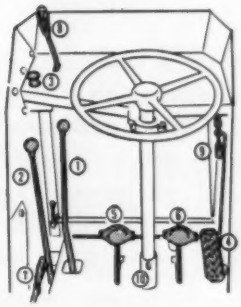
Streamlined, all-steel body

Inside is free of bulges or ledges. Top edge is box-beam constructed. Sides, ends are ribbed with 5 and 8" channels. Double-plate bottom is lined with multiple steel beams. Note ridge bar added to sturdy rock-guard teeth.



Bolted or free-swinging pan

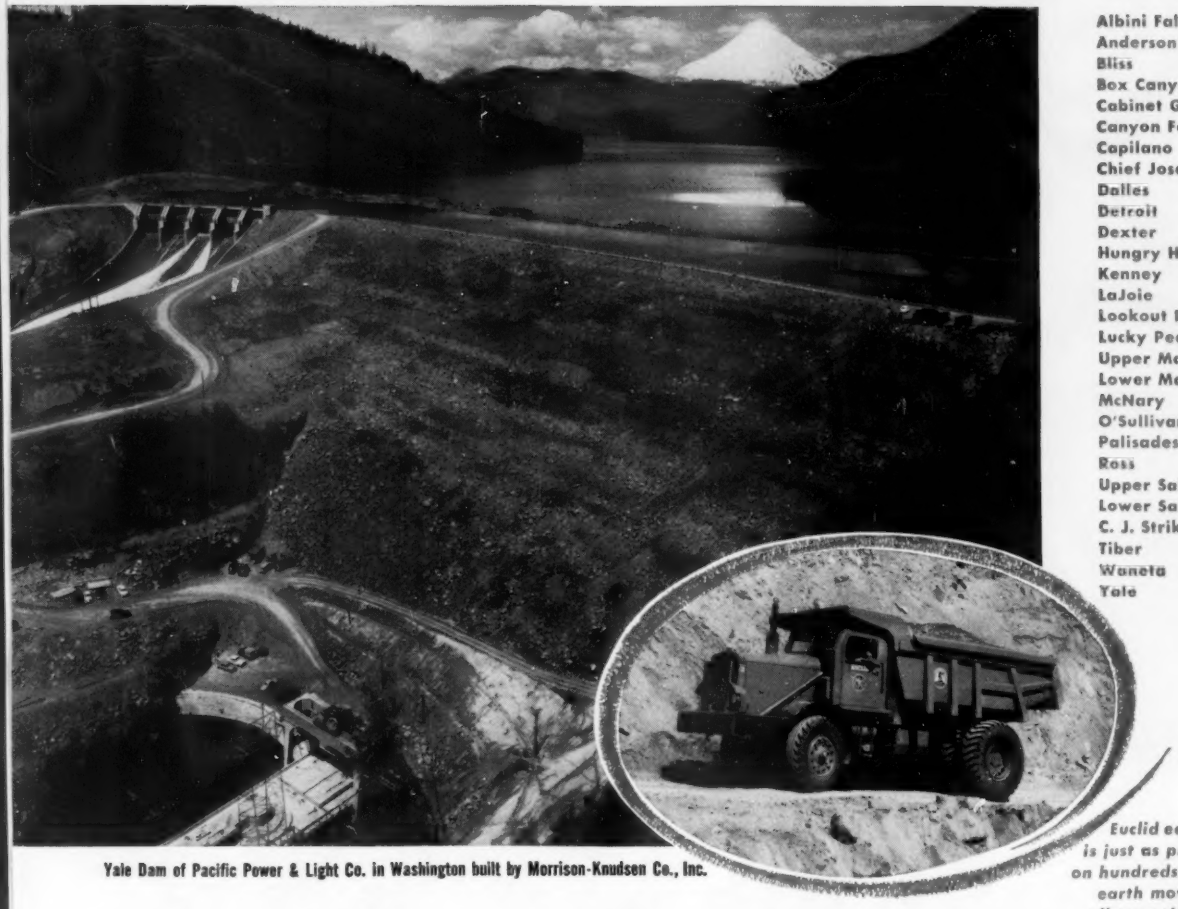
Heavy steel kick-out pan is ½" thick. Pan can be bolted to body floor for extra protection when loading rock. Remove bolts, and pan has free swinging kick-out action — breaks suction when dumping wet or sticky materials.



Easy-reach controls:

(1) Speed gear shift lever, (2) directional gear shift lever, (3) starting aid, (4) foot throttle, (5) clutch pedal, (6) brake pedal, (7) parking brake, (8) body-release lever, (9) hand throttle, (10) running lights control switch.

"Eucs" on every major dam in the *Pacific Northwest!*



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Florida Council Holds Three-Day Meeting

• Koger Succeeds Harrison as President; Tampa Bridge Visited

IRA McK. Koger, O. P. Woodcock Co., Jacksonville, was elected president of the Florida State A.G.C. Council at its meeting in Tampa April 22-24. Mr. Koger succeeds M. R. Harrison, Jr., M. R. Harrison Construction Corporation, Miami, who presided over the sessions.

Mr. Koger

Vice presidents are the presidents of the six Florida A.G.C. chapters which form the council. V. R. Gorham, Cleary Bros. Construction Co., West Palm Beach, was elected treasurer and William P. Bobb, Jr., executive manager of the Florida East Coast Chapter at Palm Beach, was chosen as secretary.

Speakers at the three-day meeting included Welton A. Snow, manager of the Building Division, and William E. Dunn, labor relations manager, both of the A.G.C. national staff in Washington, and Ira H. Hardin, Ira H. Hardin Co., Atlanta, Ga., vice chairman of the A.G.C. Accident Prevention Committee. The agenda included matters of particular concern to Florida contractors.

(Tampa Tribune Photo)

Shown at the Florida State A.G.C. Council meeting in Tampa are (left to right) Angel Ranon, Ranon & Jimenez, Tampa, president of the Florida West Coast Chapter; M. R. Harrison, Jr., Miami, retiring president of the council, and William E. Dunn and Welton A. Snow, of the A.G.C. national staff.

On the last day, members, guests and their wives were entertained by the Florida West Coast Chapter, hosts to the meeting, with an all-day boat trip on Tampa Bay to inspect the 12-mile toll bridge being constructed to complete a link in the Gulf Coast Highway.

Armstrong Heads Western Chapters' Group

» B. B. ARMSTRONG, of Armstrong and Armstrong, Roswell, N. Mex., was elected chairman of the A.G.C.'s Western Chapters Conference during its spring meeting May 3 in San Francisco. Mr. Armstrong succeeded H. G. Palmberg, a heavy contractor from Astoria, Oreg.

Other officers elected include A. E. Holt, Guy Atkinson Co., South San Francisco, first vice chairman; Hal Royden, Royden Construction Co., second vice chairman; and Clyde O. Faulk, manager of the Associated Contractors of New Mexico, secretary-treasurer. Retiring secretary-treasurer is A. H. Harding, manager of the Portland (Oreg.) Chapter.

The Western Chapters Conference, an informal organization of A.G.C. chapters in 11 western states, meets semi-annually to discuss regional problems affecting general contractors, Mr. Palmberg told the meeting. The chapters, through the conference framework, also exchange information on labor rates and general labor conditions. However, he added, any action taken by the group is not binding upon individual chapters, but is offered only as a voluntary recommendation.

Special guests at the conference were national A.G.C. President John MacLeod, Paramount, Calif.; national Vice President George C. Koss, Des Moines; and Past President A. S. Horner, Denver.

Two national staff members, C. S. Embrey, assistant executive director, and William E. Dunn, manager of labor relations, reported to the conference on latest legislative and labor developments in Washington.

Mr. Embrey told the delegates that the Wunderlich bill, permitting judicial review of disputes arising under federal contracts, was passed by Congress late in April. It was subsequently signed as Public Law 356, 83rd Congress, by President Eisenhower. Mr. Embrey also traced recent developments in the subcontractors bills which have repeatedly been blocked in both houses of Congress.

Mr. Dunn spoke to the meeting on the current trend of wage rates and fringe benefits.

The conference also praised J. Robert Mitsch, manager of the Northern California Chapter and Bruce McKenzie, managing director of the Central California Chapter, for their work in compiling a master report on wage rates and contract conditions. Such a report was recommended at the last conference in October.

Regarding safety matters, the conference recommended that all chapters continue to send delegates to the annual governors' safety conferences. Chapters also were urged to cooperate with local and national safety programs.

The date and place of the fall meeting will be announced later by the group's officers.

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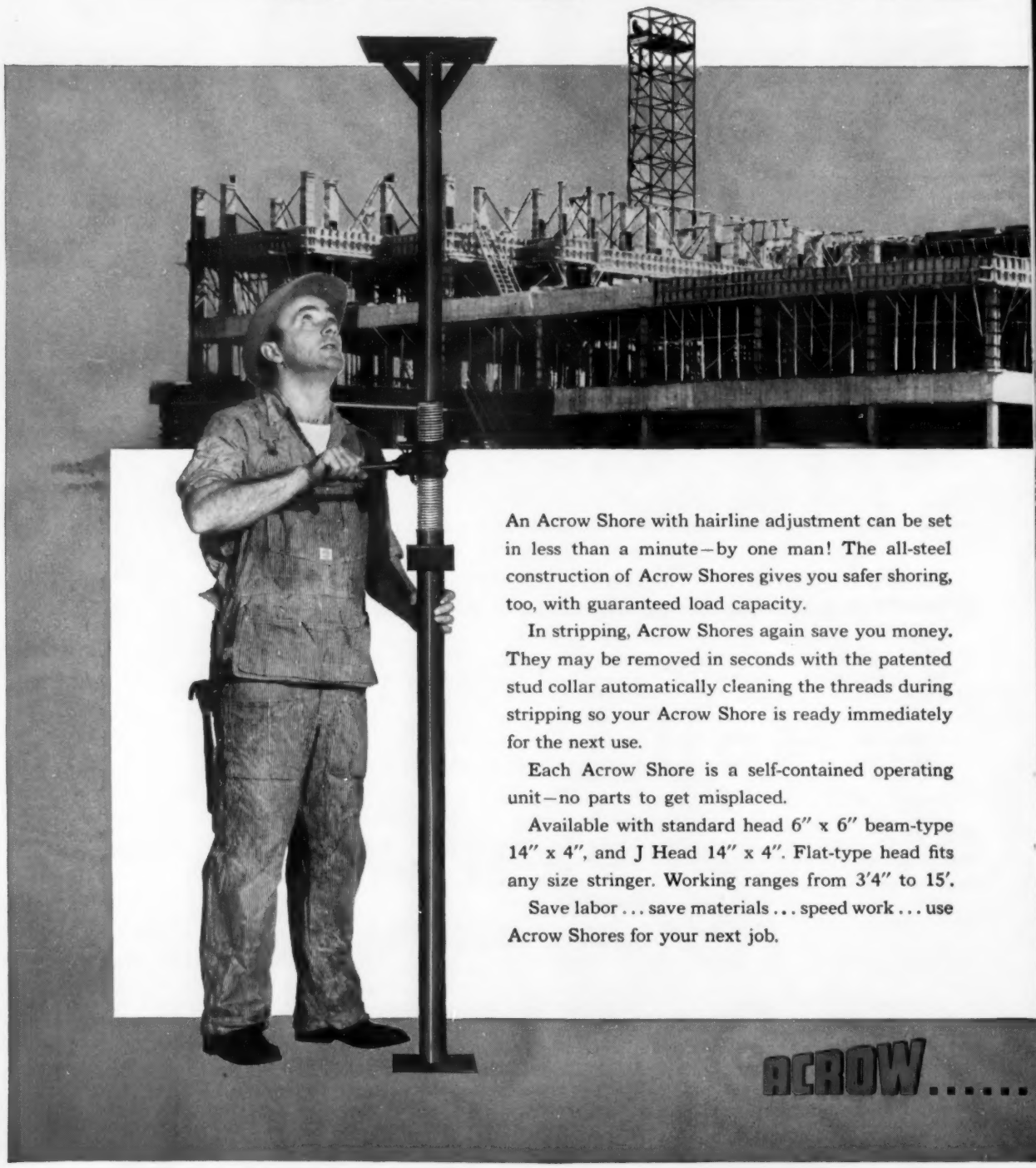

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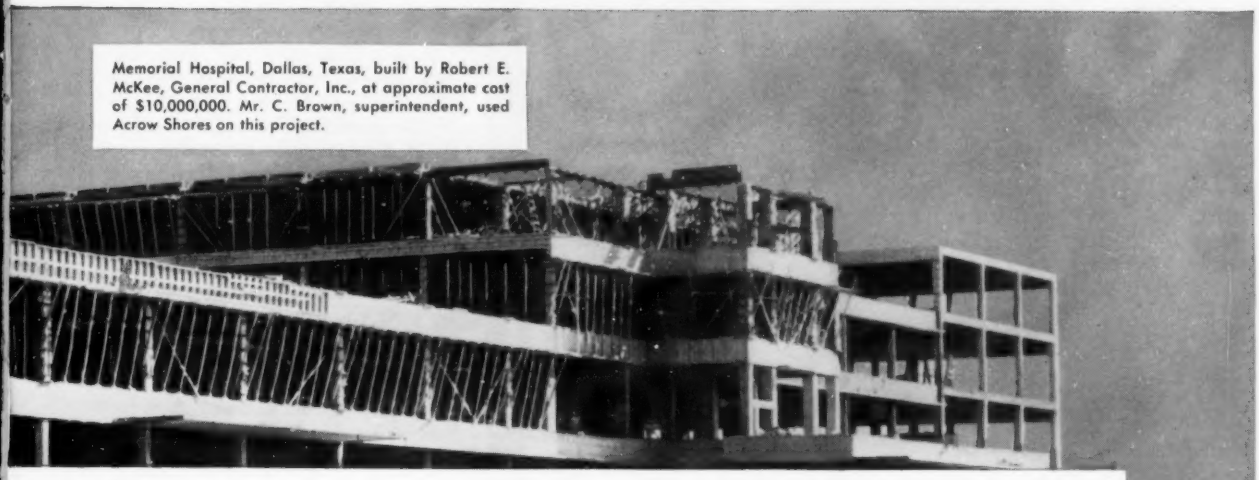

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Los Angeles Builder Gets Gridiron Award

• Twaits Cited for Service to Public and Construction Industry

(Los Angeles Times Photo)

Ford J. Twaits, left, Los Angeles general contractor, receives achievement award at Gridiron Dinner. Shown with Mr. Twaits, left to right, are Walter Eserich, chairman of the banquet committee; Alex Silverstein, chairman of the award jury; and Quentin W. Best, dinner chairman.

» FORD J. TWAITS, a Los Angeles building, highway and heavy contractor, and head of the A.G.C. firm which bears his name, was presented the construction industry's sixth annual achievement award at the annual Gridiron Banquet in Los Angeles, March 17.

The award is presented each year to the outstanding member of the industry adjudged to have contributed the most to construction on the basis of lifetime achievements in service to the public and to the industry, and in the science of design, construction and materials.

Mr. Twaits has been a contractor for 42 years and has stamped his hallmark on the city with such structures as the Pacific Mutual Building, Pacific Finance Building, Associated Realty Building, Biltmore Theatre, Texaco Building with its United Artists Theatre, Barker Brothers Building, Pershing Square Building, Good Samaritan Hospital, Title Insurance and Trust Building, Bank of America, Pershing Square underground parking garage, and the Biltmore Hotel, in which the Gridiron Banquet was held.

Defense projects constructed by the Twaits firm include guided missile installations at Point Mugu; aircraft maintenance hangar at El Toro Marine Base; Marine artillery training center at Twentynine Palms; jet test runways at Edwards Air Force Base; and Ordnance facilities at Nellis Air Force Base, Las Vegas, Nev.

Houston Officers Retained

The A.G.C.'s Houston Chapter re-elected all of its officers to serve during 1954, the group announced at its March 17 luncheon.

Heading those named to continue in office was Demmie H. Cox, Texas Gulf Construction Co., president. Other officers re-elected were Dunbar N. Chambers, Farnsworth and Chambers Co., Inc., vice-president; and D. F. Van Cleve, Van Cleve Construction Co., treasurer. Chosen directors for two-year terms were Messrs. L. W. Oliver, L. W. Oliver & Son; Bob O'Rourke, O'Rourke Construction Co.; Fred Fisher, Fisher Construction Co.; and Mr. Chambers.

Loy W. Duddlesten, was re-elected executive secretary for the eighteenth consecutive year.

Giardini Wins Labor Medal

Angelo J. M. Giardini, president of the Associated Construction Co., Hartford, and immediate past president of the Connecticut State Chapter, A.G.C., received the sixth annual McAuliffe Medal Award last month in recognition of his contributions toward better labor-management relations.

The award was presented by the Diocesan Labor Institute, Archdiocese of Hartford, at ceremonies in the Waverly Inn, Cheshire, Conn., May 11.

Also receiving the medal was Francis D. Ford, president of the Connecticut State Association of Plumbers and Steamfitters, A.F.L.

The McAuliffe Medal, named for the late Bishop McAuliffe, is awarded each year by the institute to Connecticut representatives of labor and management who have given "notable service in the promotion of justice and the betterment of industrial relations."

Rev. Hubert C. Callaghan, S.J., spoke to the meeting on "A Key to Successful Labor-Management Relations."

New A.G.C. Office in Paducah

The A.G.C. of Western Kentucky, one of the association's newest chapters, is going to get a new home.

A modern glass, stone and concrete block single-story office building is currently under construction in the 3000 block of Park Avenue, Paducah, to replace the chapter's crowded office at 2303 Elmwood at Belt Line. The ground-breaking ceremony was held May 14.

'Industry Showplace'

President John P. Kerr, John Cassidy Construction Co., Paducah, announced recently that the new building will be a showplace for the construction industry. The new quarters was the first item on President Kerr's 8-point program which he put into effect following his re-election in December.

Organized last summer, the chapter currently has over 100 active and associate members operating in 25 western Kentucky counties. More space is needed in addition to chapter plans rooms maintained in Bowling Green and Hopkinsville.

The building, to be 31 x 50 feet, will house offices, a conference room, a plans room and lobby.

Construction Industry Has Lowest Profits

• Statement by Engineer at Annual St. Louis A.G.C. Meeting

» THE construction industry, the largest in the country, works with the smallest margin of profit, Richard Bennett, industrial consultant and engineer told 600 contractors attending the A.G.C. of St. Louis' annual banquet on March 30.

Mr. Bennett emphasized that planning and control are the keys to success in the construction industry.

"Some contractors and their job planning can be linked to Columbus," he said. "They (like Columbus) don't know where they are going; they don't know where they are when they get there; and when it is all over, they don't know where they have been."

Mr. Bennett cautioned against bidding on jobs too large for small contractors to handle. The "empire builders" who try to grab every job that comes along may find themselves bankrupt, he said.

Mr. Bennett also claimed that the American universities neglect the proper up-to-date education of future contractors by not teaching fundamentals.

New Officers

The A.G.C. of St. Louis' new officers were also presented to the members. They included John Soult, Fruin-Colnon Contracting Co., president; Joseph E. Latta, J. E. Latta Construction Co., vice-president, heavy and highway division; G. J. Alberici, G. S. Alberici Construction Co., vice-president, building division; A. J. Alport, Carlo Alport Construction Co., secretary; and Leonard Hamm, Daniel Hamm Drayage Co., treasurer.

President Soult asked the contractors to take an active part in planning for the rebuilding of St. Louis.

Earl Salveter, Woerman Construction Co., presented safety awards to Fruin-Colnon Contracting Co. and Grantwood Construction Co. President Soult presented a pin and placque to retiring President Henry C. Schenler, Ben Hur Construction Co.

Shown giving Retiring President Henry C. Schenler, second from right, a standing ovation after he was presented a pin and plaque, are (left to right) R. E. MacDonald, director; A. J. Alport, secretary; Gabriel J. Alberici, vice president, William Van Murchie, banquet toastmaster; and John P. Soult, new president of the Associated General Contractors of St. Louis.

Cheney Re-Elected in Alaska

D. L. Cheney, S. Birch and Sons Construction Co., Seattle, was re-elected president of the Alaska Chapter, A.G.C. for the fourth consecutive year. P. D. Koon was named vice president and W. R. Johnson was elected secretary-treasurer.

New directors of the chapter are Messrs. Cheney, Koon, Johnson, Elman Edwards, Jack Haglund, Lloyd Martin, and R. H. Stock.

Mr. Cheney has taken an active part in the chapter's work since it was founded six years ago.

Tacoma A.G.C. Elects Officers

P. F. Stevens, Strong & Macdonald, Inc., was elected president of Tacoma Chapter, A.G.C. at the chapter's recent annual meeting. James W. Purvis, Construction Engineers and Contractors, and R. H. Hartman, Standard Construction Co., were elected vice-president and treasurer, respectively.

L. B. Macdonald, Macdonald Building Co., retiring president, was chosen to serve on the board of directors, along with Roy T. Earley, Roy T. Earley Co.; George Warter, Warter Construction Co.; Charles McPhail, McPhail Engineering; and Sam Bergesen, building contractor.

The new board members of the Heavy and Highway Division are: J. A. Woodworth, Woodworth & Co., Inc.; George Mason, Asphalt Paving & Engineering Co.; J. A. Harrison, Harrison Bros. Co., Lige Dickson, Lige Dickson Co.; and J. P. Hart, Hart Construction Co.

A. S. Macdonald, Strong & Macdonald, Inc., reported on the developments concerning the national A.G.C., and the highlights of the 35th Annual Convention. He is currently chairman of the national A.G.C.'s Heavy Construction and Railroad Contractors' Division and a member of the Executive Committee.

There was general optimism among those attending the meeting that 1954 would be a good year for construction both on the national and local levels.

MacMullan on Industry Council

Ralph A. MacMullan, secretary-manager of the Detroit Chapter, A.G.C., was elected a vice president of the city's Construction Industry Council, at a meeting last month in the Fort Shelby Hotel.

Other Council members include Roland Benge, vice president of the Detroit Bank, re-elected as president of the C.I.C.; Daniel Ford, Detroit Lumbermen's Association, vice president; Edwin J. Brunner, Builders and Traders Exchange, secretary; and Kenneth Draper, Lambrecht-Kelly Co., treasurer.

The council is made up of officials in leading associations which have common interests in housing, development of Detroit, and problems in the construction industry, including financing.

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43. Price List and Samples ☐

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June 1954

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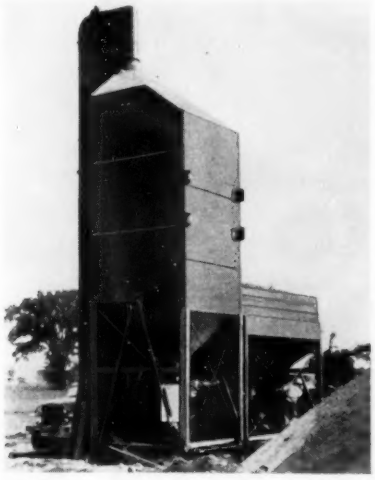


Construction Machinery Co. bulk cement bin

Asphalt Plant—*Universal Engineering Corp., 331 8th St., N. W., Cedar Rapids, Iowa.* "Speed Batch" 2,000-lb. capacity asphalt plant is all electric and features ease of operation with central push-button controls. Controlled batch aggregate drying permits complete control over every batch. Machine will produce production run or single batch. All types of asphalt mixes can be produced and many types can be run through in one day without operational change-over loss of time. Dryer, pugmill, dust collector and all power and controls for their operation are combined as unit. Unit is equipped with removable operator's platform, lifting hooks and folding stack. It is also available as portable unit mounted on steel gooseneck truck with pneumatic tires. It has capacity ranging from 25 to 40 tons per hour depending on moisture content of feed material and type of mix.

Shovel—*Osgood-General, P. O. Box 515, Marion, Ohio.* Model 250 ¾-cu. yd. crawler-mounted machine has operating machinery mounted on one-piece unit cast steel deck. Horizontal shafts are held in rigid alignment through unit cast steel machinery side frames mounted on machined pads which are integral with deck. Swing and travel motions are actuated by spiral bevel gears, machine-cut teeth, which operate in oil and are actuated by large air-cooled band-type clutches. Deck gears, bands and chains are covered. Cab covers entire machine. Shovel boom is all-steel welded box-type construction 17′ long. Handle is inside type, all steel, welded, 15′ long. Lattice-type boom for crane, dragline and clamshell service is all-welded with tubular lacings, flange-connected. Standard boom length is 35′ with inserts 5′, 10′, 15′ and 20′ available. Two-piece jibs, 10′ long with 5′ and 10′ inserts are available. Pin-connected boom, which may be folded, is optional equipment. Hoe boom is 16′6″ long with 6′10″ arm. Standard dippers are PM, up to 36″ in width. Machine is powered by either gasoline or diesel, Continental engines standard. Over-all length of crawlers is 11′ with standard 22″ width treads; 36″ width treads are optional. Weight of machine as shovel and hoe is approximately 36,000 lbs.

Osgood-General Model 250

Bulldozer, Scraper Blade—*Shunk Manufacturing Co., Bucyrus, Ohio.* Special alloy steel cutting edge, called "Rhino Blade," is so-called because of its rugged construction. It is precision machined and rolled to exact specifications. Stocks of blade are available in all popular sizes. Bulletin on new blade is available from manufacturer.

Three models new to the International Harvester industrial power line appear in this picture made during the course of the "Industrial Power Roundup" held during March at I.H.'s Phoenix Proving Grounds. Seen above Model U1091 natural gas power unit that turns out 200 h.p. at 1,600 rated r.p.m. are new 200-h.p. torque converter TD-24 crawler tractor push-loading 2T-75 high-speed, rubber-tired tractor-scraper combination. Show, which revealed complete new line of International industrial power earth-moving equipment, was attended by more than 600 I.H.-I.P. distributors from the United States and 24 foreign countries.

Dragshovel—*Bucyrus-Erie Co., South Milwaukee, Wis.* Dipper with wrist action for H-3 "Hydrohoe," all-hydraulic dragshovel, rotates in vertical plane through arc of 65° from position 25° ahead of handle to 40° behind it. It provides increased digging force and also lessens spillage and improves ranges for dumping into trucks. It can dig vertical or undercut walls and trenches deeper than they are long. Operator can change pitch or rake of dipper teeth during digging arc for best cutting angle and can pry out rocks or expose pipe with less danger of pipe damage. When dipper is rotated simultaneously while digging ram is extended, combined effort produces about 38 h.p. at dipper teeth and 50% increase in digging power—up to 6 tons of tooth force. Hydraulic ram controlling wrist action is powered by pump which normally supplies swing bank. Dipper is arranged for automatic ejection. Stationary blade or door (optional) around which dipper rotates ejects sticky material. Earlier models can be converted to wrist-action "Hydrohoe."

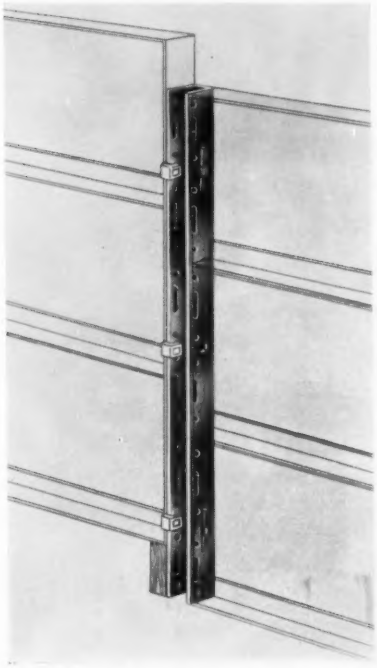
Bucyrus-Erie H-3 "Hydrohoe"

Fork Truck—*Clark Equipment Co., Battle Creek, Mich.* Clark-Ross Y-200 heavy-duty pneumatic-tired fork truck is 20,000-lb. at 24" load center machine. It is hydraulically controlled throughout. It features low center of gravity for increased stability on rough terrain. It has minimum underclearance of 10" at upright. It is powered by Hercules heavy-duty industrial engine of 320 cu. in. displacement, rated at 112 h.p. at 2,800 r.p.m. Transmission for front-wheel drive, rear-wheel-steer provides 4 speeds forward and reverse and is equipped with 14" heavy-duty single-plate clutch. Heavy-duty planetary gear reduction at drive wheels is provided to reduce torque load.

Portable Fuel Tanks—*Goodyear Tire & Rubber Co., Akron 16, Ohio.* Light-weight collapsible fuel tanks, with capacities from 900 to 10,000 gal. of gasoline, provide mobile "tank farms" to move forward with highway equipment. They are made of nylon fabric and coated with petroleum-resistant synthetic rubber. Standard Oil Co. of Ohio, which placed installations at Goodyear's test grounds recently, transported gasoline to portable tanks and had them pumping in 45 min.

Goodyear 10,000-gal. fuel tank

Form—*Universal Form Clamp Co., 1238 N. Kostner Ave., Chicago 51.* Dual-purpose step filler form is prefabricated form that functions with "Uni-Form" concrete forms and can be used as regular filler or step filler. It allows continuous forming regardless of footing condition. Walls can be formed on step footers without necessity of breaking forms. It allows for unevenness in footings without breaking up continuity of forming.



Universal Form Clamp step filler form

Screening and Loading Plant—*Pioneer Engineering Works, Minneapolis 13.* No. 310 portable screening and loading plant is designed for production of screened sand and gravel on small or large jobs where moves are frequent and little auxiliary equipment is necessary. Hinged conveyors and on-plant power on same pneumatic-tired chassis that carries screen and feeder provide quick movability by eliminating mounting and line-up of conveyors and belts. Units of 310 include 24G (reciprocating plate) feeder with 6′ shovel hopper and trap grate, 3′ x 10′ 2-deck 4-bearing vibrating screen, 24″ x 29′ folding channel frame feeder conveyor, 24″ x 20′ folding channel frame end delivery conveyor and 18″ x 15′ folding channel frame side delivery conveyor for rejecting over-size.

Need more tons of asphaltic concrete for Superhighways, Airports, Turnpikes Expressways, Big-city Markets?

Cedarapids Built by IOWA

NEW 6000-LB.

MODEL G-60

BITUMINOUS MIXING PLANT

3 TONS PER BATCH MEETS BIGGEST DEMANDS . . . CUTS PRODUCTION COSTS!

BIG FEATURES FOR THE BIG JOBS

● Fully automatic controls (optional). Weighs, batches, mixes, discharges and starts new cycle without operator, gives up to 10% increase in capacity. ● Progression indicator lights insure accurate batching. ● 60-cu. ft. mixer capacity BELOW center line of shafts gives 6000 to 6500-lbs. per batch! ● Welded steel mixer body fully jacketed. Liners of ⅜" manganese steel built in sections for easy replacement. Two U-shaped manganese castings around discharge gate protect mixer body from wear. ● 7" diameter heavy-duty mixer shafts. Spherical, self-aligning bearings rest on heavy H-beams which transmit load to main structure, eliminate strain on mixer ends. Bearings placed away from mixer body for cool running and maximum life. Generously sized anti-friction bearings used throughout plant. ● Efficient "runaround" paddle arrangement. New rigid bar-type double paddle arms, with wear-resisting floating removable sleeves, extend completely through mixer shafts. ● Smooth-running 4' x 14' horizontal vibrating screen produces 4 sizes, plus oversize, has plenty of reserve capacity. Specially adapted for asphalt plants with power unit placed in the open on end of screen, out of heat and dust. ● Rigid heavy-duty columns and structure throughout for minimum vibration. All columns and bracings interchangeable. ● All wiring meets National Standards Association latest specifications. ● Highly portable. Each component unit has its own running gear and erection device. Plant can be erected from columns to hot elevator in less than two days. ● Equipped with 4-compartment cold aggregate storage bin and positive, proportioning type of feeder. ● Asphalt bucket of ¼" plate entirely jacketed. Asphalt spreader pan runs entire width of mixer. ● Pneumatic controls eliminate operator fatigue, speed cycle time in manual operation. ● All hot elevator bearings mounted outside of enclosure for maximum life and easy access for lubrication. ● Exceptional freedom from dust with "scavenger" system and plant design for "breathing" within itself. ● Capacity conservatively rated 150 tons per hour, depending on mixing cycle time.

TODAY's big bituminous paving jobs demand increasingly higher tonnage output of asphaltic concrete. That's why Cedarapids designed the 6000-lb. Model G-60 . . . so you can meet those increased tonnage demands fast, and make a higher profit on each ton produced! Every feature in this new Cedarapids plant is designed for big production . . . 180 tons per hour and more, with completely automatic controls. Every unit in the G-60 is quality-built for the balanced, efficient, long-life performance that keeps maintenance costs low.

Your Cedarapids distributor will gladly tell you the full story of the Model G-60 high-production, high-profit performance. See him today.

IOWA MANUFACTURING COMPANY ● Cedar Rapids, Iowa, U.S.A.

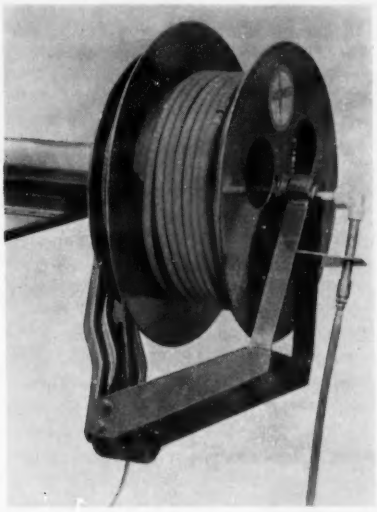

Commander
Crushing and Screening Plant


Vibratory Soil Compactor


Motorized Head Pulley


Master
Bituminous Mixing Plant

Combination Tagline—*McCaffrey-Ruddock Tagline Corp., 2131 E. 25th St., Los Angeles 11.* Combination heavy-duty hose reel and tagline eliminates necessity of having man on ground to recharge storage tank which actuates air- or hydraulic-operated cylinder on bucket. It steadies concrete bucket at any angle of boom while paying air hose in and out. Hose is never under stress because steel tagline absorbs tension through positive coil spring action at all times. Bucket is steadied during entire lift.



McCaffrey-Ruddock combination hose reel and tagline

Compressor—*Le Roi Co., 1706 S. 68th St., Milwaukee 14.* New 600 CTM compressor for mounting on tractor is designed to bring compressed air power to remote areas. With side booms and twin wagon drill air feed assemblies, it can be mounted on retired tractor and form integral drilling unit. It can be mounted on International Harvester TD-24 and Caterpillar D8. Same engine powers both tractor and compressor. Standard equipment includes independent clutch to disengage compressor from power-take-off shaft, deep crank case for operation at 30° angle, complete compressor controls including slow-down of engine, heavy undercarriage and intercooler guards, air receivers and heavy-duty oil bath air cleaners.

Truck Mixer—*Blaw-Knox Co., Construction Equipment Dept., Pittsburgh 38.* Mixers are available in 5½ and 6½ cu. yd. sizes. Mixer engine is at rear and mixer transmission on side of combination flush water tank and front pedestal. This permits better distribution of weight on truck chassis and still allows use of short wheelbase truck.

Blaw-Knox truck mixer

Tractors—*Caterpillar Tractor Co., Peoria 8, Ill.* Booklet (Form 31081) presents new D8 tractor. Eight colored photos show tractor at work in variety of applications. Illustrated in cut-away photo is recently developed oil clutch. . . . DW15 150 h.p. rubber-tired tractor is shown in Form 31041. Photos and cut-aways show engine, transmission and clutch. Detailed specification sheet is included. Brief specifications and suggestions for properly matching tractor with scraper or wagon are given.

Engines—*Cummins Engine Co., Columbus, Ind. Air for your Engine* is title of bulletin prepared by Cummins Service Division. Subject is air and what to do about it. Necessity for lot of air, why engine must have clean air and air of right temperature is explained. How to provide correct amount and kind of air is explained.

Scrapers—*Allis-Chalmers Tractor Division, Milwaukee 1.* Mechanical and performance features of TS-200 and TS-300 scrapers and of motor wagon models TR-200 and TW-300 are described in 2 new catalogs, MS452 on scrapers and MS-453 on wagons. Views of equipment are included along with photos showing important mechanical features. In addition to specifications and other data, catalogs are illustrated with in-field photos showing performance ability.

Windows—*William Bayley Co., Springfield, Ohio.* Aluminum projected windows and projected ribbon windows are presented in new catalog. Details of windows are sketched and described. New ideas on panel-wall window arrangements are shown.

Stud Welding—*KSM Products, Inc., Stud Welding Division, Merchantville, N. J.* Newly designed battery unit which supplies power for welding studs up to ½" base diameter is described and illustrated in specification sheet. It provides complete details of unit's tap selector switch, output terminals, 12 heavy-duty batteries which are kept charged by automatic charger.

Retaining Walls—*Armco Drainage & Metal Products, Inc., Middletown, Ohio.* Folder describes how metal bin-type retaining walls confine earth and stabilize embankments along highways, railroads, streets and streams. It shows sectional bin-type design and bolted construction. Photos of typical erection and installation scenes are shown.

Doors—*The Kinnear Manufacturing Co., 650-680 Fields Ave., Columbus 16, Ohio.* Kinnear 1954 catalog gives information to assist in comparing advantages of different styles of upward-acting types of doors as well as dimensional information necessary in planning use of such doors.

Wellpoint System—*Moretrench Corp., Rockaway, N. J.* Moretrench wellpoint system is discussed in 1954 catalog. Many kinds of construction work predrained with Moretrench equipment are described and illustrated. Included are descriptions and illustrations of equipment, including wellpoints, pumps, parts and fittings.

Barges—*Dravo Corp., Neville Island, Pittsburgh 25.* Welded steel barges for river and harbor use are described in illustrated booklet. One section is devoted to descriptive data and pictures of deck barges used by sand and gravel and construction industries to transport large tonnages of cargo to terminals along inland and coastal waterways.

Road Joints—*Richmond Screw Anchor Co., 830 Liberty Ave., Brooklyn 8.* Information covering full range of road joint devices for concrete highways and airstrips is contained in new bulletin. Devices shown include lightweight dowel baskets, heavy-type dowel supports and spacers and new short dowel one-man type of load transfer assembly which is available with stainless steel dowels for special applications.

Tracks—*Athey Products Corp., 5631 W. 65th St., Chicago 38.* Reports on several applications of Athey "Forged-Trak" wheels are contained in folder, Form 1010. It shows heavy equipment being transported in undeveloped areas with help of wheels. Photos show work in process and job data describe each application. Details and specifications of wheels are included.

Transmissions Lubrication—*Fuller Manufacturing Co., Kalamazoo, Mich.* Lubrication recommendation folder condenses Fuller experience in manufacturing heavy-duty transmissions for both on- and off-highway trucks and industrial equipment. Feature article, "Proper Lubrication Promotes Profitable Operation," defines basic functions of transmission lubricants and describes types and seasonal grades recommended. Extreme pressure gear oils, engine oils, and all-purpose gear lubricants and Fuller's objection to their use are discussed. Folder contains complete list of Fuller transmissions with lubricant capacity of each.

Hard-Surfacing—*Victor Equipment Co., Alloy Rod & Metal Division, 11440 S. Alameda St., Los Angeles 59.* New manual shows how to rebuild parts, prolong service life with hard-surfacing. It gives information as to type of alloy to use, preparation, welding and finishing procedures. Preface describes complete Victor line of hard-surfacing alloys for acetylene and manual or automatic arc welding.

NEW LITERATURE

Vermiculite—*Vermiculite Institute, 208 S. La Salle St., Chicago 4.* Two booklets give information on uses of vermiculite in construction and industry. *Vermiculite Loose-Fill Building Insulation* describes properties of fireproof material and how it is installed. Procedures are illustrated with typical construction details. Data give potential savings in fuel and summer air-conditioning costs. *Versatile Vermiculite in Modern Industry* contains information on 4 sizes of vermiculite and lists number of current uses of each.

Road Stabilization—*National Lime Assn., 925 15th St., N.W., Washington 5.* Stabilizing soils and soil-aggregate mixtures for base and sub-base construction of roads is discussed in book, *Lime Stabilization of Roads.* Story of lime stabilization, its diverse methods of application, its potentialities, its limitations, its methods of evaluation, salient facts of 26 projects, cost data are given. Book contains photos and graphs, charts and tables as well as bibliography of 24 references.

Asphalt Paving—*Carlisle Chemical Works, Inc., Reading, Ohio.* Booklet describes "Pave," asphalt bonding additive which, it is claimed, has absolute heat stability in asphalt. Comparative test data on additive heat stability are given.

Battery Maintenance—*The Electric Storage Battery Co., Exide Industrial Division, Box 8109, Philadelphia 1.* Booklet on storage battery maintenance (Form 5063) breaks down battery care to 7 basic rules, each emphasized with cartoon treatment and brief explanatory text.

Sump Pumps—*Byron Jackson Co., Los Angeles 54.* Sumpmaster Bulletin 54-3-1420 contains selection charts to find individual model when desired g.p.m. and total head are known. Complete dimensions and outline drawings are included.

Hose—*Quaker Rubber Corp., Tacony and Comly Sts., Philadelphia 24.* Suction hose for use in construction jobs, mines and quarries is described in new bulletin. It gives performance data, constructions, sizes, weights, working pressures and recommended uses. It is illustrated by cross-section and cut-away photos. Information on types of couplings used with hose is included.

ADVERTISEMENT

How to Judge Value in a Shovel-Crane

You can't compare the quality of two pieces of equipment by simply comparing their so-called "features." For instance, one shovel-crane manufacturer may "sell" the idea that he has a 25 ft. hoe boom as compared with a competitor's 23 ft. boom, leaving the inference that it would dig deeper. Actually, the stick used with the 23 ft. boom might be longer than the one on the 25 ft. boom and, therefore, would dig as deep or deeper. One manufacturer might "feature" anti-friction bearings as proof that his machine excelled while actually the high speeds at which he runs his shafts might mean that he couldn't use anything else.

Sometimes highly touted "features" are ballyhoo to cover up inherent weaknesses elsewhere. After all, being *different* isn't necessarily *better.*

Design features cannot just be imposed on a machine—they must be *integrated* into *all* parts and functions. Design features as such are not what users really buy. They buy only what the features will *do* for them in the way of low end cost, ease of use and, primarily, the profits they will produce.

Instead of features, we at Thew believe in what we call "Balanced Quality." We don't claim to "outfeature" every one else; to be faster, more powerful, to have more of "everything." But we do offer "Balanced Quality" in which all the components, and functions, are quality-engineered into a completely integrated unit.

In many respects, we do better than others . . . in others, we come close to the top. But all-in-all, the combination results in a machine in which *quality* has been distributed evenly *throughout* the machine rather than concentrated in a few sales features. A machine in which *power* has been *"balanced"* properly between all operations, in which the *speeds* of various functions have been *balanced* for integrated, synchronized operations, in which the *controls* have been *balanced* to produce quick starts and rapid acceleration, in which the *weight* of the machine has been *balanced* for maximum stability.

Any one of these results in itself, or the design by which it is achieved, may not be sensational but, added all together, they will do that one thing we believe you really want more than anything else—and that is: *put more dirt in the wagons, faster, at lower cost—and to do it longer!*

WANT "FULL MEASURE" IN A 1-YARD SHOVEL?

Want to be sure of getting the "full measure" of value from your next shovel in the 1-yd. class? Want high output? Low maintenance? More work hours on the job? Then, investigate the values in the Lorain-50! Investigate the many advantages of the Hydraulic (fluid drive) Coupling . . . plus the "balanced quality" *throughout* this stand-out performer in the 1-yd. class. Your nearby Thew-Lorain Distributor can show you how the "50" values measure up in action on the job.

THE THEW SHOVEL CO., LORAIN, OHIO

SEE THE THEW LORAIN "50"

SEND FOR LORAIN "50" CATALOG

See why Lorain design gives you "full measure" of value — get the inside story on this quality-built 1-yd. class machine. Write for your catalog today.

THEW LORAIN

OFFERING MORE THAN 136 SHOVEL-CRANE COMBINATIONS — ON CRAWLERS OR RUBBER-TIRES ... TO BEST FIT YOUR JOB FOR PROFIT!

SEE YOUR THEW-LORAIN DISTRIBUTOR

MANUFACTURERS' NOTES

Professor Charles O. Gunther has been appointed research consultant of L. B. Foster Co.

Carl R. Rolf, vice president in charge of sales of Pioneer Engineering Works, has been elected to the board of directors.

Jack B. Hart has been appointed export manager and Charles D. Bobbitt manager, order and distribution of Construction Machinery Division of Clark Equipment Co.

Henry T. Clark has been promoted to manager of explosives production of Atlas Powder Co. Chester A. Hoffman has been named assistant manager.

"Bonded Buy," a promotional program designed to give added assurance of quality and long service to the purchaser of used Caterpillar equipment, went into effect in April for domestic dealers of Caterpillar Tractor Co. "Bonded Buy" machines carry dealer's written agreement to replace without charge for parts and labor any parts that prove defective under normal use within 30 days after date of sale. Guarantee is backed by master bond issued by Travelers Indemnity Co. assuring customer that if dealer should fail to fulfil his obligation the surety company will make good on any legitimate claim.

G. E. Burke, director of engineering, has been appointed director of engineering and research for Caterpillar Tractor Co.

A service "follow-up" system is now available to all purchasers of Reo Motors spark ignition industrial engines. Reo issues a 6-months' or 90 days of service warranty on all parts, equipment and accessories supplied by Reo whether these parts or accessories were made by Reo or not. Attached to the service policy are 2 certificates entitling purchasers to inspection by an authorized Reo industrial engine dealer at the time the engine first goes into service and then a follow-up performance inspection 30 days later. Reo issues a special metal identification plate, permanently attached to the engine block, which lists name and factory code number of every part of the engine, so that as long as the plate remains attached parts and accessories can always be quickly and correctly ordered.

Milton J. Weber, vice president in charge of procurement of The Frank G. Hough Co., has been made a director and Thomas F. Flood has been made vice president in charge of manufacturing.

W. D. Lease has been elected vice president, sales, of Athey Products Corp. R. W. Kling is vice president, engineering, C. E. Matthews, vice president, service and parts and R. S. Hinds, treasurer and assistant secretary.

Steel erection has started for a new manufacturing plant on a 100-acre tract of land near Benton Harbor, Mich., for Clark Equipment Co. It will be used for manufacturing a new line of tractor shovels and for power shovels now made in the present plant. It will have 145,000 sq. ft. of floor space. The Austin Co. has been awarded the contract for design, engineering and construction of the new facilities.

Harold E. Smith Dies

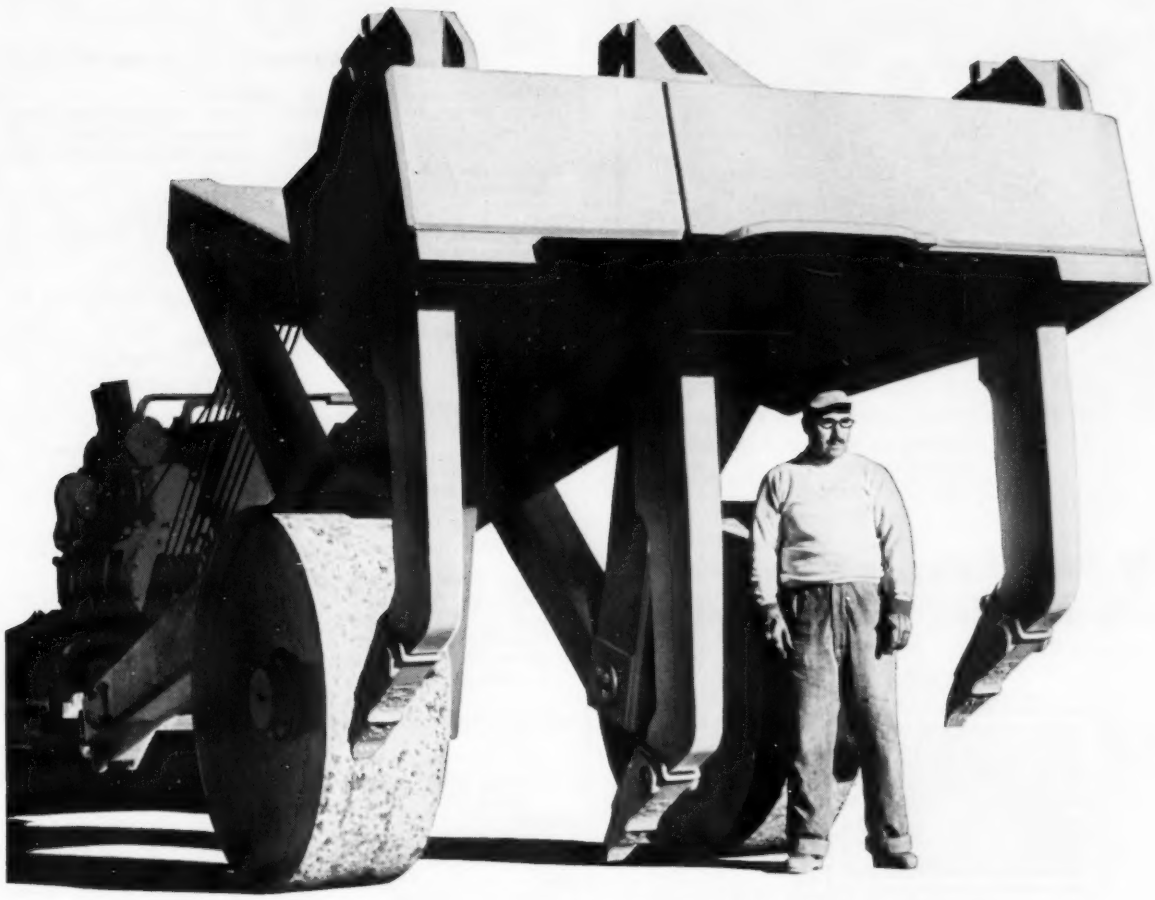
Harold E. Smith, president of The T. L. Smith Co., died suddenly on April 20, in Paris, France, while on a vacation trip. He was the son of Thomas L. Smith, founder of the company, and had been president since 1916.

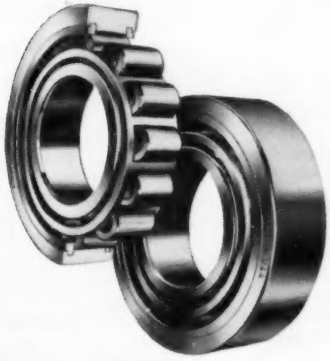
Movie on Labrador

Armco Drainage & Metal Products, Inc. has issued a 16 mm. sound-color motion picture, "Progress on the Labrador Iron Ore Venture." It shows the building of 360 miles of railroad, miles of access roads, landing strips, 2 hydro-electric plants, 2 town sites with docks. Building the railroad under extremely adverse conditions is pictured in considerable detail, with drainage being an important part of this work. Thousands of feet of corrugated metal structures were installed and typical scenes are shown.

To arrange a showing, write to Motion Picture Department, Armco Drainage & Metal Products, Inc., Middletown, Ohio.

Seventeen Tons of RIPPER!





. . . and Hyatt Roller Bearings keep it ready for the road!

In California, construction jobs are like the state: BIG! So Peterson Tractor & Equipment Company, of San Leandro, designed and built this gigantic, seventeen-ton road ripper—strong enough to withstand the pulling effort of *six* of the largest diesel tractors! Naturally, to protect their investment, the builders designed their giant with Hyatt Roller Bearings. Like equipment manufacturers in every industry, they know that Hyatts can be counted on to reduce friction, resist wear, and preserve alignment of moving parts.

HYATT

STRAIGHT BARREL TAPER

ROLLER BEARINGS

HYATT BEARINGS DIVISION ∎ GENERAL MOTORS CORPORATION ∎ HARRISON, NEW JERSEY

ADVERTISERS' PRODUCTS

Manufacturers' addresses are listed on page 94

Airplanes
Aero Design and Engineering Co.

Asphalt Joint Sealer
Servicised Products Corp.

Asphalt Plants (Portable)
Barber-Greene Co.
Iowa Mfg. Co.
Universal Engineering Corp.

Awnings (Aluminum)
Kawneer Co.

Axles (Truck)
Eaton Manufacturing Co.

Backfillers
Bucyrus-Erie Co.
Cleveland Trencher Co.
Harnischfeger Corp.
Parsons Co.
Unit Crane and Shovel Corp.

Batchers
Blaw-Knox Division
Butler Bin Co.
Construction Machinery Co.
Heltzel Steel Form & Iron Co.
C. S. Johnson Co.

Bearings (Anti-Friction, Tapered Roller)
Hyatt Bearings Division
Timken Roller Bearing Co.

Belting
Carlyle Rubber Co.

Bins
Blaw-Knox Division
Butler Bin Co.
Heltzel Steel Form & Iron Co.
Iowa Mfg. Co.
C. S. Johnson Co.

Bits (Detachable Drill)
Joy Manufacturing Co.
Timken Roller Bearing Co.

Blades (Grader, Maintainer, Snow Plow, Bulldozer, Scarifier)
Shunk Manufacturing Co.

Blasting Accessories
American Cyanamid Co.

Bridges
American Bridge Division
Armco Drainage & Metal Products

Buckets (Clamshell & Dragline)
Blaw-Knox Division
Bucyrus-Erie Co.
Harnischfeger Corp.
C. S. Johnson Co.
Owen Bucket Co.
Wellman Engineering Co.

Buckets (Concrete)
Blaw-Knox Division
Construction Machinery Co.
Heltzel Steel Form & Iron Co.
Insley Manufacturing Corp.
Owen Bucket Co.

Buildings
Allied Structural Steel Cos.
American Bridge Division
Armco Drainage & Metal Products
Luria Engineering Co.
Macomber, Inc.
Truscon Steel Division

Bulldozers
LeTourneau-Westinghouse Co.

Car Pullers
Clyde Iron Works
Superior-Lidgerwood-Mundy Corp.

Cement (Common and Special)
Lehigh Portland Cement Co.
Lone Star Cement Corp.
Universal Atlas Cement Co.

Cement (White)
Trinity White, General Portland Cement Co.
Universal Atlas Cement Co.

Clamps (Hose)
Dixon Valve & Coupling Co.

Column Forms
DesLauriers Column Mould Co.

Compressors
Allis-Chalmers Co.
Joy Manufacturing Co.
LeRoi Co.

Concrete Mixers, Pavers, Tampers
Chain Belt Co.
Construction Machinery Co.
Foote Construction Equipment Division
Jaeger Machine Co.
Knickerbocker Co.
Koehring Co.
Kwik-Mix Co.
T. L. Smith Co.
Worthington Corp., Construction Equipment Division

Concrete Slab Void Tubes
Sonoco Products Co.

Concrete Vibrators
Concrete Surfacing Machinery Co.
Electric Tamper & Equipment Co.

Conveying Machinery
Barber-Greene Co.
Chain Belt Co.
Iowa Mfg. Co.
Joy Manufacturing Co.
Universal Engineering Corp.

Cranes
Austin-Western Co.
Bucyrus-Erie Co.
Clark Equipment Co., Construction Machinery Division
Cleveland Trencher Co.
Clyde Iron Works
Harnischfeger Corp.

Insley Manufacturing Corp.
Koehring Co.
Manitowoc Engineering Corp.
Northwest Engineering Co.
Thew Shovel Co.
Unit Crane and Shovel Corp.

Crushing Machinery
Allis-Chalmers Co.
Austin-Western Co.
Iowa Mfg. Co.
Universal Engineering Corp.

Culverts
Albert Pipe Supply Co.
Armco Drainage & Metal Products

Cutters (Abrasive)
Wodack Electric Tool Corp.

Decking (Roof Steel & Aluminum)
Macomber, Inc.

Derricks
Clyde Iron Works

Doors (Metal, Wood)
Kawneer Co.
Kinnear Mfg. Co.
R. C. Mahon Co.
Truscon Steel Division

Dredging Machinery
Harnischfeger Corp.
Northwest Engineering Co.

Drills & Drilling Machinery
Bucyrus-Erie Co.
Joy Manufacturing Co.
Salem Tool Co.
Timken Roller Bearing Co.

Drills (Electric)
Wodack Electric Tool Corp.

Electric Plants
Kohler Co.

Elevators (Material)
Chain Belt Co.
Iowa Mfg. Co.
Universal Engineering Corp.

Engines
Allis-Chalmers Tractor Div.
American Hoist & Derrick Co.
Caterpillar Tractor Co.
Continental Motors Corp.
Detroit Diesel Engine Division
Harnischfeger Corp.
International Harvester Co.
Kohler Co.
LeRoi Co.
Reo Motors, Inc.
Waukesha Motor Co.
Wisconsin Motor Corp.

Expansion Joints
Laclede Steel Co.
Servicised Products Corp.

Explosives
American Cyanamid Co.

Facing (Aluminum)
Kawneer Co.

Fasteners (For Steel, Concrete)
Velocity Power Tool Co.

Financing
C.I.T. Corp.

Finishing Machines (Bituminous)
Barber-Greene Co.

Finishing Machines (Concrete)
Blaw-Knox Division

Flooring
Truscon Steel Division

Forms (Concrete) and Accessories
Blaw-Knox Division
Economy Forms Corp.
Heltzel Steel Form & Iron Co.
Joseph T. Ryerson & Son, Inc.
Sonoco Products Co.
Symons Clamp & Mfg. Co.
Universal Form Clamp Co.
Walton Plywood Co.

Generating Sets (Electric)
Caterpillar Tractor Co.

Graders
J. D. Adams Mfg. Co.
Allis-Chalmers Tractor Div.
Austin-Western Co.
Caterpillar Tractor Co.
Euclid Division
Galion Iron Works & Mfg. Co.
Koehring Co.

Gravel Plants (Portable)
Iowa Mfg. Co.

Grinders (Electric)
Wodack Electric Tool Corp.

Hammers (Electric)
Wodack Electric Tool Corp.

Hoists
American Hoist & Derrick Co.
Clyde Iron Works
Construction Machinery Co.
Harnischfeger Corp.
Joy Manufacturing Co.
Superior-Lidgerwood-Mundy Corp.

ADVERTISERS' PRODUCTS

Hose (Air, Water, Steam, Suction)
Carlyle Rubber Co.
United States Rubber Co.

Industrial Financing
C.I.T. Corp.

Insurance (Automobile, Casualty, Compensation, Liability)
Aetna Casualty & Surety Co.
American Casualty Co.
Central Surety & Insurance Corp.
Employers Mutuals of Wausau

Joists (Steel)
Laclede Steel Co.
Macomber, Inc.

Lighting Plants
LeRoi Co.

Loaders (Portable)
J. D. Adams Mfg. Co.
Barber-Greene Co.

Lubricants
Gulf Oil Corp.

Menders (Hose)
Dixon Valve & Coupling Co.

Mixers (Truck)
Blaw-Knox Division
Chain Belt Co.

Mixing Plants
Blaw-Knox Division
Butler Bin Co.
Chain Belt Co.
C. S. Johnson Co.

Mortar (Masonry)
Lehigh Portland Cement Co.

Nipples (Hose)
Dixon Valve & Coupling Co.

Pan Forms (Concrete)
Gateway Erectors, Inc.

Partitions (Steel, Load-Bearing)
Macomber, Inc.

Pile Drivers
American Hoist & Derrick Co.
Austin-Western Co.
Bucyrus-Erie Co.
Harnischfeger Corp.
Joy Manufacturing Co.
McKiernan-Terry Corp.
Northwest Engineering Co.
Thew Shovel Co.
Vulcan Iron Works

Piling (Steel)
Albert Pipe Supply Co.
Allied Structural Steel Cos.
American Bridge Division
Armco Drainage & Metal Products
Bethlehem Steel Co.
L. B. Foster Co.

Pipe
Albert Pipe Supply Co.
Armco Drainage & Metal Products
L. B. Foster Co.
Laclede Steel Co.
Naylor Pipe Co.
Universal Concrete Pipe Co.
Universal Sewer Pipe Corp.

Plywood
Walton Plywood Co.

Power Buggies
Kalamazoo Manufacturing Co.

Pumps (Contractors')
Barnes Mfg. Co.
C.H.&E. Mfg. Co.
Carver Pump Co.
Chain Belt Co.
Construction Machinery Co.
Essick Manufacturing Co.
Gorman-Rupp Co.
Griffin Wellpoint Corp.
Jaeger Machine Co.
Leyman Mfg. Corp.
Marlow Pumps
Novo Engine Co.
Peerless Pump Division
Rice Pump & Machine Co.
Sterling Machinery Corp.
Worthington Corp., Construction Equipment Division

Pumps (Jetting)
Gorman-Rupp Co.
Griffin Wellpoint Corp.

Quantity Surveyors
H. A. Sloane Associates

Quarry Plants
Austin-Western Co.
Iowa Mfg. Co.
Universal Engineering Corp.

Rail
L. B. Foster Co.

Railway Equipment & Track Material
L. B. Foster Co.
Wisconsin Motor Corp.

Reinforcement Accessories
Economy Forms Corp.
Symons Clamp & Mfg. Co.
Universal Form Clamp Co.

Reinforcing Steel and Mesh
American Bridge Division
Bethlehem Steel Co.
Connors Steel Division
Laclede Steel Co.
Joseph T. Ryerson & Son, Inc.
Truscon Steel Division

Rollers
Austin-Western Co.
Blaw-Knox Division
Euclid Division
Galion Iron Works & Mfg. Co.

Roof Deck (Steel)
Allied Structural Steel Cos.
R. C. Mahon Co.
Truscon Steel Division

Rope (Wire)
American Hoist & Derrick Co.
Joseph T. Ryerson & Son, Inc.

Sash (Metal, Wood)
William Bayley Co.
Hope's Windows, Inc.
Truscon Steel Division

Scaffolding (Sectional Steel, Tubular Steel)
Patent Scaffolding Co.

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J. D. Adams Mfg. Co.
Austin-Western Co.

Scrapers
Austin-Western Co.
Caterpillar Tractor Co.
Euclid Division
Galion Iron Works & Mfg. Co.
LeTourneau-Westinghouse Co.

Screens (Sand, Gravel & Coal)
Iowa Mfg. Co.

Shores
Acrow, Inc.
Patent Scaffolding Co.
Symons Clamp & Mfg. Co.

Shovels (Power)
American Hoist & Derrick Co.
Austin-Western Co.
Bucyrus-Erie Co.
Butler Bin Co.
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Harnischfeger Corp.
Insley Manufacturing Corp.
Koehring Co.
Manitowoc Engineering Corp.
Northwest Engineering Co.
Thew Shovel Co.
Unit Crane and Shovel Corp.

Shutters (Fire, Labeled)
Kinnear Mfg. Co.
R. C. Mahon Co.

Slings (Wire Rope)
American Hoist & Derrick Co.

Slipform Equipment
B. M. Heede, Inc.

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Galion Iron Works & Mfg. Co.

Stabilizing Equipment
Harnischfeger Corp.
Iowa Mfg. Co.

Steel (Structural)
Allied Structural Steel Cos.
American Bridge Division
Bethlehem Steel Co.
Flint Steel Corp.
Macomber, Inc.
Joseph T. Ryerson & Son, Inc.
Truscon Steel Division

Store Fronts
Kawneer Co.

Stud Welding
KSM Products, Inc.

Surety Bonds
Aetna Casualty & Surety Co.
American Casualty Co.
American Surety Co.
Central Surety & Insurance Corp.
Employers Mutuals of Wausau
Fidelity & Deposit Co.
Fire Association of Philadelphia
Insurance Co. of North America
National Surety Corp.

Surveying Instruments
Fennel Instrument Corp.

Swing Stages
Patent Scaffolding Co.

Tires
Goodyear Tire & Rubber Co.
United States Rubber Co.

Tools (Pneumatic, Electric)
Allis-Chalmers Co.
Joy Manufacturing Co.

Tools (Powder-Actuated)
Velocity Power Tool Co.

Tractors
Allis-Chalmers Tractor Div.
Caterpillar Tractor Co.
International Harvester Co.
M-R-S Manufacturing Co.

Trailers (Dump & Crawler Wheel)
Euclid Division
LeTourneau-Westinghouse Co.

Trailers (Heavy Equipment)
Rogers Bros. Corp.

Transmissions
Cotta Transmission Co.

Trenchers
Barber-Greene Co.
Clark Equipment Co., Construction Machinery Division
Cleveland Trencher Co.
Harnischfeger Corp.
Parsons Co.
Unit Crane and Shovel Corp.

Trestles (Adjustable Steel)
Patent Scaffolding Co.

Truck Axles
Eaton Manufacturing Co.

Trucks (Heavy Rear-Dump)
Euclid Division

Trucks (Motor)
International Harvester Co.

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Macomber, Inc.

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Armco Drainage & Metal Products

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Dixon Valve & Coupling Co.

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Caterpillar Tractor Co.
Euclid Division
LeTourneau-Westinghouse Co.

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R. C. Mahon Co.

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Iowa Mfg. Co.
Universal Engineering Corp.

Wellpoint Systems
Griffin Wellpoint Corp.

Winches
Clyde Iron Works
Superior-Lidgerwood-Mundy Corp.

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Tulakes Airport
Oklahoma City, Okla.

Aetna Casualty & Surety Co.
Hartford 15, Conn.

Albert Pipe Supply Co.
Berry & N. 13th St
Brooklyn 11, N. Y.

Allied Structural Steel Cos.
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Chicago 6, Ill.

Allis-Chalmers Co.
Milwaukee 1, Wis.

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Pittsburgh, Pa.

American Casualty Co.
Reading, Pa.

American Cyanamid Co.
30 Rockefeller Plaza
New York 20, N. Y.

American Hoist & Derrick Co.
St. Paul 1, Minn.

American Surety Co.
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New York 5, N. Y.

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Middletown, Ohio

Austin-Western Co.
Aurora, Ill.

Barber-Greene Co.
Aurora, Ill.

Barnes Mfg. Co.
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Mansfield, Ohio

William Bayley Co.
Springfield, Ohio

Bethlehem Steel Co.
Bethlehem, Pa.

Blaw-Knox Division
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Bucyrus-Erie Co.
South Milwaukee, Wis.

Butler Bin Co.
Waukesha, Wis.

C. H. & E. Mfg. Co.
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Milwaukee 12, Wis.

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1 Park Ave.
New York 16, N. Y.

Carlyle Rubber Co.
62-64 Park Place
New York 7, N. Y.

Carver Pump Co.
Muscatine, Iowa

Caterpillar Tractor Co.
Peoria 8, Ill.

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Kansas City 10, Mo.

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Milwaukee 1, Wis.

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Cleveland 17, Ohio

Clyde Iron Works
Duluth 1, Minn.

Concrete Surfacing Machinery Co.
Cincinnati 32, Ohio

Connors Steel Division, H. K. Porter Co.
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Birmingham, Ala.

Construction Machinery Co.
Waterloo, Iowa

Continental Motors Corp.
Muskegon, Mich.

Cotta Transmission Co.
Rockford, Ill.

DesLauriers Column Mould Co.
5131 Dempster St.
Skokie, Ill.

Detroit Diesel Engine Division, General Motors Corp.
Detroit 28, Mich.

Dixon Valve & Coupling Co.
Columbia & Hancock Sts.
Philadelphia 22, Pa.

Eaton Manufacturing Co., Axle Division
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Cleveland 10, Ohio

Economy Forms Corp.
4301 E. 14th St.
Des Moines 13, Iowa

Electric Tamper & Equipment Co.
Ludington, Mich.

Employers Mutuals of Wausau
Wausau, Wis.

Essick Manufacturing Co.
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Los Angeles, Calif.

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Cleveland 17, Ohio

Fennel Instrument Corp. of America
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Fidelity & Deposit Co.
Fidelity Bldg.
Baltimore 3, Md.

Fire Association of Philadelphia
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Philadelphia 6, Pa.

Flint Steel Corp.
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Tulsa, Okla.

Foote Construction Equipment Division, Blaw-Knox Co.
1908 State St.
Nunda, N. Y.

L. B. Foster Co.
Pittsburgh 30, Pa.

Galion Iron Works & Mfg. Co.
Galion, Ohio

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Chicago 51, Ill.

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Akron 16, Ohio

Gorman-Rupp Co.
Mansfield, Ohio

Griffin Wellpoint Corp.
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Gulf Oil Corp.
Gulf Building
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Milwaukee 46, Wis.

B. M. Heede, Inc.
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New York 4, N. Y.

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Warren, Ohio

Hope's Windows, Inc.
Jamestown, N. Y.

Hyatt Bearings Division, General Motors Corp.
Harrison, N. J.

Insley Manufacturing Co.
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Indianapolis 6, Ind.

Insurance Co. of North America
1600 Arch St.
Philadelphia, Pa.

International Harvester Co.
180 N. Michigan Ave.
Chicago 1, Ill.

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Iowa Mfg. Co.
Cedar Rapids, Iowa

Jaeger Machine Co.
528 Dublin Ave.
Columbus 16, Ohio

C. S. Johnson Co.
Champaign, Ill.

Joy Manufacturing Co.
Oliver Building
Pittsburgh 22, Pa.

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Kalamazoo Manufacturing Co.
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Kalamazoo, Mich.

Kawneer Co.
1105 N. Grant St.
Niles, Mich.

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Knickerbocker Co.
Jackson, Mich.

Koehring Co.
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Milwaukee 16, Wis.

Kohler Co.
Kohler, Wis.

Kwik-Mix Co.
Port Washington, Wis.

Laclede Steel Co.
Arcade Bldg.
St. Louis 1, Mo.

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Allentown, Pa.

LeRoi Co.
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Milwaukee 14, Wis.

LeTourneau-Westinghouse Co.
Peoria 5, Ill.

Leyman Mfg. Corp.
Cincinnati 2, Ohio

Lone Star Cement Corp.
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New York 17, N. Y.

Luria Engineering Co.
500 Fifth Ave.
New York 36, N. Y.

M-R-S Manufacturing Co.
Flora, Miss.

Macomber, Inc.
Canton 1, Ohio

R. C. Mahon Co.
Detroit 34, Mich.

Manitowoc Engineering Corp.
Manitowoc, Wis.

Marlow Pumps
Ridgewood, N. J.

McKiernan-Terry Corp.
18 Park Row
New York 38, N. Y.

National Surety Corp.
4 Albany St.
New York, N. Y.

Naylor Pipe Co.
1280 E. 92d St.
Chicago 19, Ill.

Northwest Engineering Co.
Field Bldg., 135 S. LaSalle St.
Chicago 3, Ill.

Novo Engine Co.
212 Porter St.
Lansing 5, Mich.

Owen Bucket Co.
7750 Breakwater Ave.
Cleveland 2, Ohio

Parsons Co.
Newton, Iowa

Patent Scaffolding Co.
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Long Island City 1, N. Y.

Peerless Pump Division, Food Machinery and Chemical Corp.
301 West Ave. 26
Los Angeles 31, Calif.

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Lansing 20, Mich.

Rice Pump & Machine Co.
Grafton, Wis.

Rogers Bros. Corp.
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Albion, Pa.

Joseph T. Ryerson & Son, Inc.
P. O. Box 8000-A
Chicago 80, Ill.

Salem Tool Co.
Salem, Ohio

Servicised Products Corp.
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Chicago 38, Ill.

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Bucyrus, Ohio

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Los Angeles 21, Calif.

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Superior, Wis.

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Lorain, Ohio

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Chicago 3, Ill.

Truscon Steel Division
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Youngstown 1, Ohio

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Milwaukee 14, Wis.

United States Rubber Co.
Rockefeller Center
New York 20, N. Y.

Universal Atlas Cement Co.
100 Park Ave.
New York 17, N. Y.

Universal Concrete Pipe Co.
297 S. High St.
Columbus, Ohio

Universal Engineering Corp.
331 8th St., N.W.
Cedar Rapids, Iowa

Universal Form Clamp Co.
1238 N. Kostner
Chicago 51, Ill.

Universal Sewer Pipe Corp.
1500 Union Commerce Bldg.
Cleveland 14, Ohio

Velocity Power Tool Co.
201 N. Braddock Ave.
Pittsburgh 8, Pa.

Vulcan Iron Works
329 North Bell Ave.
Chicago 12, Ill.

Walton Plywood Co.
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Indianapolis 5, Ind.

Waukesha Motor Co.
Waukesha, Wis.

Wellman Engineering Co.
7015 Central Ave.
Cleveland 4, Ohio

Wisconsin Motor Corp.
Milwaukee 46, Wis.

Wodack Electric Tool Corp
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Chicago 44, Ill.

Worthington Corp.—Constr. Equip. Div.
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MICHIGAN *bucket control means "Bigger Loads . . . . . FASTER"*

Watch a MICHIGAN Tractor Shovel at work —with particular attention to bucket action —and you'll *see* how a MICHIGAN* will *handle bigger loads, move more yardage*—faster, at considerably lower cost.

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- *Remarkable digging ability*—two large double acting cylinders on bucket and two large double acting cylinders on main lift give excellent control and superior digging action.
- *Good bucket height and reach*—high dumping clearance and ample forward reach make trucks easy to load.

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Six models: capacities from 1.5 cubic feet to 2¼ cubic yards. Facts about the MICHIGAN Tractor Shovel are important—and interesting. The MICHIGAN Fact Folio contains specifications and action photos. The coupon gets it for you.

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CLARK EQUIPMENT

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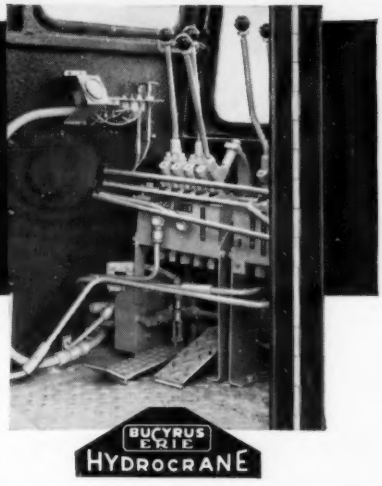

Now Bucyrus-Erie offers a new, more powerful all-hydraulic crane-excavator — the self-powered H-3 Hydrocrane. Taking its power from its own 4-cylinder industrial engine instead of from the truck engine, the new self-powered Hydrocrane provides the following big advantages:

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3. **Convenient operation.** Selector valve is foot operated — provides metered control of higher speeds—operator need not let go of hoist and swing levers to operate selector valve. Controls for power plant conveniently grouped at operator's station.
4. **Reduced crane maintenance** from simpler more direct power application. High pressure hoses through center pin leading from pumps to valve bank eliminated. Fewer belts, shafts, and hoses.
5. **Improved efficiency.** Improved oil filtering with less restriction. Better cold weather performance.
6. **Improved truck engine life.** Economy results from fewer truck repair bills. Generator for independent power plant re-charges motor truck battery. Overall fuel consumption is less.

1H54

These are just a few of the advantages of the new self-powered Hydrocrane — and self-power is just one of the big features that is making the Hydrocrane foremost in 1954. See your distributor for complete details.

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